FocusGuide

Photoshop

BRING IMAGES TO LIFE ONLINE

Create stunning web graphics every time with this no-nonsense guide to getting images ready for the internet

132 pages of easy-to-follow tutorials and expert advice to help you develop your Photoshop skills

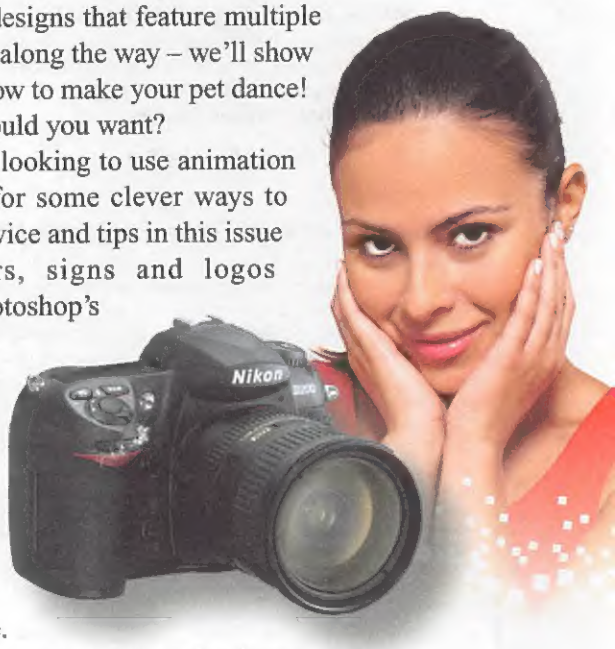
Bring those images to life!

Whether you want to design a whole website, or just create animations that explode on to the web, this guide has everything you need!

Adobe Photoshop is an incredibly powerful and versatile program that's packed with tools and features to bring out the creative genius in beginners and image-editing experts alike. In this issue we take a look at how Photoshop is interwoven with ImageReady, enabling you to create stunning animations for the web with ease. From covering the basics of animation in a series of simple steps and tutorials to more in-depth coverage of complex animation projects, you'll learn everything you need to enable you to bring your images to life.

You don't need to be an experienced animator to get things moving with Photoshop and ImageReady. We'll start with the basics, showing you how to make a ball bounce realistically on the screen, and take you all the way through to creating sophisticated web page designs that feature multiple animated elements. You'll have plenty of fun along the way – we'll show you how to make your car 'smile' and even how to make your pet dance! Entertaining and educational – what more could you want?

If you're more commercially minded, and looking to use animation to promote your online store, or looking for some clever ways to enhance your business's website, then the advice and tips in this issue will be invaluable to you – banners, signs and logos can all be animated and enlivened using Photoshop's and ImageReady's tools.



From creating images to send to mobile phones to editing and creating your own home movies, the ways in which you can use your animations is endless. Our walkthroughs will guide you through every step of the featured projects, and you'll even find training movies on the CD to show you exactly how things should be done.

So what are you waiting for? Turn the page and start learning how you can bring your images to life in new and exciting ways. From wacky websites to dancing dogs – everything you need is here…

Future Publishing Ltd
30 Monmouth Street, Bath BA1 2BW
www.futurenet.co.uk
Tel 01225 44 22 44 Fax 01225 44 60 19

Writer **George Cairns**
Editor **Tamsin Mackay**
digitalbookazines@futurenet.co.uk
Art Editors **Debbie Vosser**
Richard Llewellyn
Front cover © Getty Images UK
Production Editor **Mike McNally**
Computer Arts Senior Editor **Paul Newman**
Video Tutorial Producer **George Cairns**
New Media Co-ordinator **Trevor Witt**
New Media Editor **Simon Holland**
Production Co-ordinator **Diane Ross**
Marketing Manager **Fiona Tully**
Publisher **Kelley Corten**
Publishing Director **Dom Beaven**

www.myfavouritemagazines.co.uk

Distributed through the UK Newstrade by
Marketforce (UK) Ltd, 5th Floor, Low Rise Building, Kings Reach Tower, Stamford Street, London, SE1 9LS
Overseas Distribution by **Future Publishing Ltd.**

SUBSCRIPTIONS & BACK ISSUES

If you have a query regarding a subscription or back issue, or would like to place an order, please contact our customer services team:
Telephone: +44 (0)870 837 4722
Email: customerservice@futurenet.co.uk

Printed in the EU

Future Publishing is part of Future plc.

Future plc produces carefully targeted specialist magazines for people who share a passion. We aim to satisfy that passion by creating titles offering value for money, reliable information, smart buying advice and which are a pleasure to read. Today we publish more than 100 magazines in the UK, US, France and Italy. Over 100 international editions of our magazines are also published in 30 other countries across the world. Future plc is a public company quoted on the London Stock Exchange (symbol: FUTR).

Non-executive Chairman	Roger Parry
Chief Executive	Greg Ingham
Managing Director	Robert Price
Group Finance Director	John Bowman

Tel +44 1225 442244 www.futureplc.com

Bath • London • Milan • New York • Paris • San Francisco

We recommend that you always maintain an up-to-date backup of your hard disk data. Future Publishing does not accept any responsibility for disruption, damage and/or loss to your data or computer system that may occur while carrying out procedures described in this publication.

Finding your way

Our handy icons hold the key to a wealth of additional information both in the Focus Guide and on the disc...

Where do you start? With so much to tell you about Adobe Photoshop and ImageReady, it's hard to find enough room for all of the information we want to pack in – especially since there's now a second Focus Guide included on the cover disc! That's why you'll find the special icons that accupy the margins on each page so useful.

As you leaf through the pages, you'll find a range of eye-catching symbols to help you to identify exactly what kind of information you're dealing with – for a guide to icon categories, see below. These hints and tips are always relevant to the topic that's being discussed, and will help you to develop your Photoshop and ImageReady skills that little bit faster.

Our writers are all experienced Photoshop experts who regularly contribute to our sister publications, such as Computer Arts, so you can rest assured that all the information included in this Focus Guide is thoroughly tried and tested.

On your DVD-ROM

Tutorial files, trial software, PDFs of our issue 16 Modern Art and more besides are included on your DVD-ROM. Every now and then, we remind you of this by flagging-up the disc icon and listing the relevant disc contents for that page or chapter.

Top tips

This indicates an expert tip. Anything sheltered beneath this icon is guaranteed to reveal a useful tip, or advice about Adobe Photoshop Elements' range of tools, options and features.

Further information

We'd like to tell you absolutely everything, but there's just not enough space. Instead, we refer you to other useful resources – such as websites and specialist books – for further reading.

Shortcuts

Carrying out common tasks again and again can get a little tedious. Our handy shortcuts show you how to perform these tasks with a few deft key-presses, saving you lots of time and effort.

Take note

You'll find a number of these nuggets of knowledge scattered throughout this Focus Guide. They're crammed with useful information that complements the points being made in the main text perfectly.

Watch out!

The 'skull and crossbones' sign means that you should proceed with caution. You'll find some important points outlined below this icon, which you should certainly take seriously.

Links

When we refer to a website, we may pull out the web address in the sidebar to make it easier for you to read and remember.

Photoshop version

Where there are anomalies in the way that heritage or Elements iterations of the software handle particular tasks, or if certain tools are located in different places in the interface, this icon will alert you.

CONTENTS

Animated logos

CREATING LOGOS FOR TV AND THE WEB 36

Develop your animation skills by creating logos that you can use to augment your websites – you'll discover some powerful new tools and techniques in the process

Hi-tech imagery

ANIMATING EVERYDAY TECHNOLOGY 54

Develop your Photoshop and ImageReady skills further to create a variety of technologically inspired animations for your home movies, your website, and even for mobile phones

Interacte Animation

CREATING ROLLOVERS FOR YOUR WEBSITE 98

Make your website genuinely interactive by incorporating animated GIFs into the design of a page. You can then use ImageReady's rollover tools to trigger animations

Website design

CREATING AN ANIMATED HOME PAGE 110

In this final chapter we'll combine many of the tools and techniques we've covered to create a sophisticated interactive home page that features a variety of animated elements

Essential Information

CD PAGES AND RESOURCES 122

Your essential guide to the software on your bonus CD – plus our handy glossary and details of what essential Photoshop trickery you can look forward to in next month's packed issue

Chapter 1

ANIMATION TOOLS AND INTERFACES

In this chapter...

- ☐ *Analyse the components of an animation*
- ☐ *Get to know the Animation palette*
- ☐ *Discover the Layers palette's animatable attributes*
- ☐ *Create a simple animated GIF*

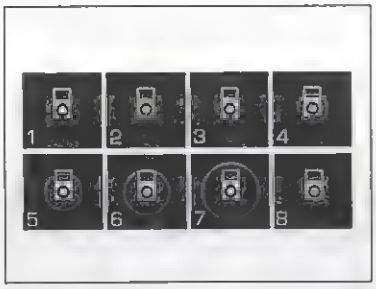
The powerful combination of Photoshop and ImageReady enables you to create eye-catching animations that will enhance your websites, and add polish to video

Photoshop is a powerful and versatile package that can be used in all kinds of different ways. Photographers can employ the application's extensive image adjustment tools to tweak histograms to get a perfect range of shadows, midtones and highlights in their digital shots; image re-touchers can give reality a nip and a tuck by removing unwanted objects from a scene using tools such as the Clone Stamp, or by performing a bit of digital cosmetic enhancement – to remove a subject's blemishes and whiten their teeth, for example. Of course, Photoshop can do much more than enhance images, as we can see from the work of reality-warping digital artists who use the package in more creative ways.

Many of these users will be aware of ImageReady, Photoshop's specialist web content tool, but will have spent little, if any, time getting to know what the application can actually do. After all, Photoshop CS and CS2 have plenty of Save for Web options, so why should they bother using ImageReady at all?

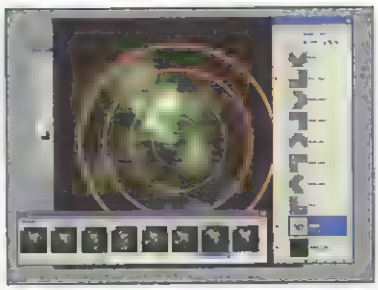
Still and moving

In this Focus Guide we'll give you a whole host of reasons to get better acquainted with ImageReady, as we show you how to unleash your

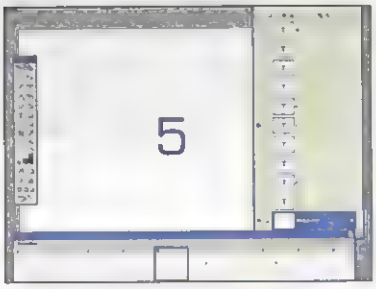


Page 12 *Take an animated GIF to bits to see how it was put together*

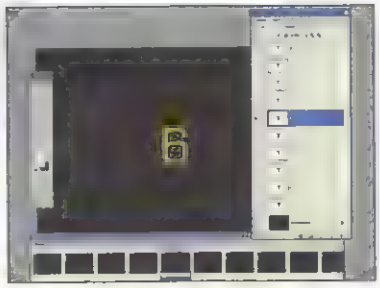
Page 15 *Take a close-up look at ImageReady's Animation palette*



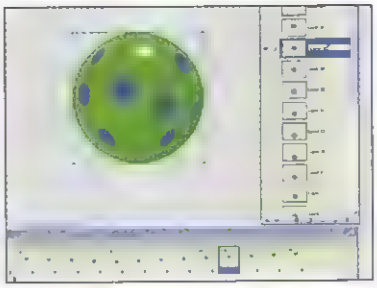
Page 16 *ImageReady's Layers palette can help you to create animated GIFs*



Page 17 *Combine the Animation and Layers palettes to create an animation*



Page 18 *Modify an animation to fine-tune its components and its timing*



Page 19 *Learn how various Layers palette attributes can be animated*

creativity – and take your static Photoshop imagery to a whole new level – by creating animations.

Back in Photoshop Focus Guide issue 10 we looked at creating web imagery using Photoshop and ImageReady. Although primarily concerned with still images, that guide also touched on the subject of using ImageReady to create animations with which to liven up your websites, and in this issue we're going to focus in much more detail on creating animated content for the web. To give you added value for money – and an extra resource – we've placed the whole of issue 10 on the cover disc in PDF form, so you can refer to it for more on using ImageReady with still images.

Ideas and interaction

In this guide we'll show you how to combine Photoshop and ImageReady to create striking and imaginative animated graphics for the web. As well as eye-catching animated GIFs to attract passing surfers, we'll also show you how to make a site more interactive by creating animated rollovers that react to being clicked on. We'll even show you how to embed multiple animations into a single web page's design, so each animation can be triggered by the presence of a visitor's cursor.

Anatomy of a GIF

Before we create our own animated GIF, let's take one apart to see what makes it tick...

PodcastGIF

To see the animated GIF featured on this page (or any of the GIFs created or referred to in this guide) check out Podcast.GIF on your cover disc. Simply drag the GIF on to your browser's icon to see the animation in action (or choose File > Open from within your browser, and navigate to the GIF file).

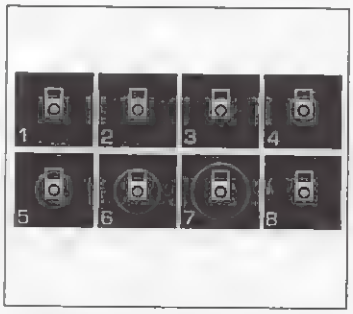
Every moving image we watch is made up of a series of still images – because these static images flicker by so quickly we perceive them to be moving. TV broadcasts use sophisticated techniques to make this movement appear smoother, like packing 25 frames (each containing two separate fields) into every second of screen time. Fortunately for animators, a small amount of frames are enough to create the illusion of movement. We can bring matchstick figures drawn on page corners to life by flicking rapidly through the pages of a book, for example, and ImageReady's animated GIFs work in much the same way.

ImageReady and Photoshop enable you to create a GIF's components from scratch, and animate them using a variety of techniques

FRAME BY FRAME

Discover how the frames of a GIF create the illusion of movement

On page 57 we'll show you how to create an animated iPod icon to promote a link to your podcasts. The iPod graphic was created using Photoshop's vector-based shape tools, and given a 3D effect using layer styles. A stylised blue radio wave radiates outwards from the iPod's scroll wheel before fading out into thin air, like a radio wave. The GIF is made up of just eight frames, but as it's set to loop forever it provides plenty of movement, while maintaining a small file size. Throughout this guide we'll show you many tricks and techniques for transforming layered components into sequential frames to produce an animation.



ImageReady's animated GIFs create the illusion of movement by rapidly displaying a series of still frames

The production pipeline

Let's look at the relationship and workflow between Photoshop and ImageReady

You may be an experienced Photoshop user who's interested in developing your web skills but has little knowledge of web design packages such as GoLive, or web content creation packages like Flash. This guide will demonstrate how you can create some amazing animations without the need to go under the bonnet and tinker with any HTML. Indeed, you don't need to stray far from the comfort zone of the Photoshop interface.

Thanks to the integrated workflow between Photoshop and ImageReady you can easily create complex web graphics from scratch that feature a combination of animated GIFs and JPEGs nestled together in tables, without any java coding or HTML knowledge. Photoshop enables you to create the components for your animated GIFs either from scratch, or by editing existing source photos (see the dancing dog in Chapter 5 for an example of animating photos). On the following pages we'll introduce you to the key tools that ImageReady provides to get your Photoshop content moving.

Quick switch
To jump between ImageReady and Photoshop without clicking on the appropriate toolbox icons, simply press [Shift]+[Control]/[Command]+[M]. You can then tweak your source files in Photoshop, press the shortcut again and update the changes to the animation in ImageReady.

To and fro

Jump between Photoshop and ImageReady to edit and animate

One great thing about ImageReady is the similarity of its interface to Photoshop's. Once you've created a few components on separate layers in Photoshop, simply click on the Edit in ImageReady icon at the bottom of the toolbox to open your document in ImageReady. ImageReady displays the Photoshop components in its own Layers palette, and like Photoshop it has tools that you can use to generate content such as text, or vector-filled shapes. At the bottom of the ImageReady toolbox is an Edit in Photoshop icon, and you can jump back and forth between the applications to modify or create content at any time.

Jump between ImageReady and Photoshop by clicking the icons at the bottom of their toolboxes

The ImageReady interface

Learn to recognise ImageReady's animation tools and palettes – you'll be using them a lot!

Tidy up the interface
When you first open ImageReady the interface will be clogged with palettes in their default locations. Although we'll be using the Web Content palette later, you won't need it for a while, so click on the close icon to get rid of it. Turn off all the open palettes except the Layers palette, then go to Window > Animation to open the Animation palette; these palettes are the key tools of the animation trade.

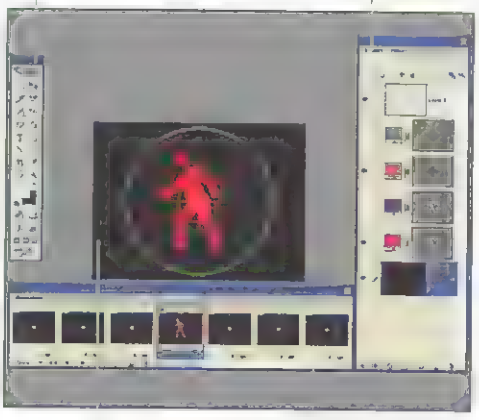
As you progress through this guide you'll be spending a lot of time in the ImageReady workspace, and you'll soon get to know your way around its various tools and palettes. Over the next few pages we'll introduce you to the program's key features, and we'll demonstrate the important relationship between the Animation palette and the Layers palette. We'll also introduce you to some of the techniques that you'll put into practice in the many creative walkthroughs throughout this guide.

By following these walkthroughs step by step you'll discover a variety of different ways to create animated content, and be able to adapt the techniques they cover to create your own site-enhancing animations. You'll learn what attributes of a Photoshop document ImageReady can animate – such as layer visibility and opacity for example, as well as discovering effective ways to get around ImageReady's limitations. But let's kick off with a general look at the most commonly used areas of ImageReady's interface.

Some key ImageReady tools

ImageReady's toolbox is like a cut-down version of Photoshop's; you can use the tools to generate content, and edit components imported from Photoshop.

The Layers palette contains all the components of your animation. We'll show you how to change a variety of different layer attributes to create movement.



The work area is where you can view (and edit) the content of a specific frame; here we can see the content of Frame 4.

As you'd expect, the Animation palette is one of the most important tools. It enables you to decide what each frame of the animation will display.

The Animation palette

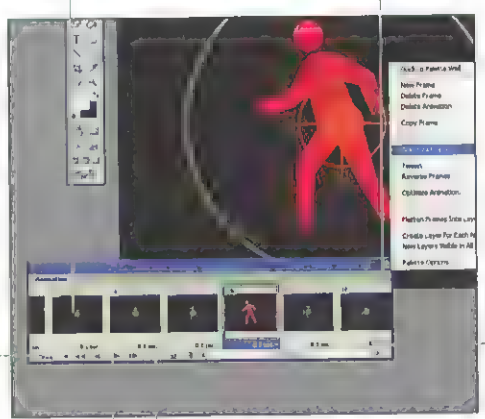
Take a look at the Animation palette, and familiarise yourself with its icons and controls

Before any craftsman gets down to work they'll make sure they've got the right tools for the job, and make sure they know where to find them. It's no different when you're creating animations in ImageReady, so before you get started you'll find it useful to know the location and identity of the many icons and buttons that you'll be using in the walkthroughs featured throughout this Focus Guide. Let's start by checking out the Animation palette in more detail, as it's loaded with features for altering attributes such as the duration of frames, and whether the animation plays once or loops continuously. The Animation palette also contains fantastic timesaving tools like the tween icon, which enables you to generate dozens of frames in an instant to get a layer's component moving from point A to point B. We'll be putting all of the Animation palette's features through their paces as we progress, so feel free to use this page as a handy 'map' that will help you to quickly locate specific Animation palette icons.

Workspaces

Once you've tailored the ImageReady workspace to suit your animation needs, you can save the layout as an alternative to the more cluttered default workspace. Go to Window > Workspace > Save Workspace. In the Save Workspace dialog box that appears type in a suitable name – for example Animation Workspace.

The Animation palette



Each frame in the animation is viewed as a numbered thumbnail, and represents the state of the Layer palette's components at a specific time.

This drop-down menu enables you to set the animation's looping options. You can create infinitely looping animations, or just make the GIF play once.

These generic playback controls enable you to play the animation to test it, or step through the frames one by one, as well as rewinding to the start.

Click on this arrow to open the palette menu, which gives you access to a host of additional animation commands and options.

Click under each frame to change its duration. You can [Shift]+click to select a range of frames, and change their durations in one go.

The tween icon accesses one of the most powerful features in the Animation palette – more on that later.

The Layers palette

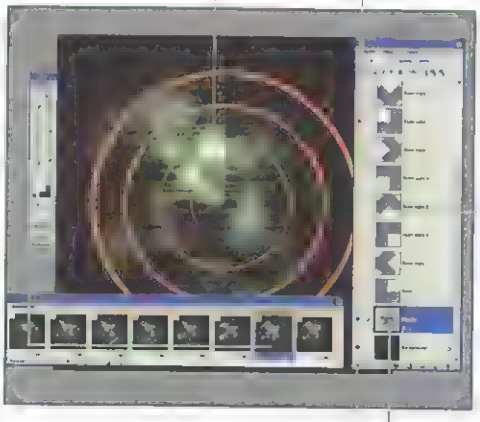
Control each frame of your animation by modifying attributes in the Layers palette

Rotating radar
On pages 62-65 we'll show you how to combine the Animation palette and the Layers palette to create an animated radar beam. The sweeping beam effect is achieved by creating a grey layer which is one quarter filled with white. The layer is duplicated, and each copy is rotated in increments to create several more layers. These layers are then turned on and off in sequence to create several new frames in the Animation palette.

Cell-based animation is a traditional technique that does away with the need to redraw every element in every frame. By drawing a moving character's frames on to hundreds of transparent sheets (or cells), the animator can then overlay each cell on to a detailed picture of a static background. They can then capture a frame of the finished animation, and swap to the next cell in the sequence. The background doesn't have to be re-drawn each time, as it's visible through the transparent parts of each cell.

The Layers palette is one of the most useful and powerful tools in Photoshop and ImageReady, as it allows you to have total creative control over the content and position of a project's components. In many ways it mimics the traditional cell animation technique: you can create a background layer, then add new layers to contain the objects or characters that you want to move. The Layers and Animation palettes work very closely together to create your finished movies, as you'll see in the following chapters.

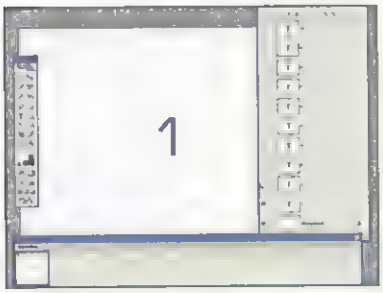
The Layers palette



Make it move

Combine the Layers palette and the Animation palette to create a simple animation

Here's a simple exercise to show you the basics of creating an animation. Open Photoshop and Go to File > New. Choose a Preset of 800x600. Select the Horizontal Type Tool [T], and click in the work area. Type the numbers 1 to 10 on separate layers. Move all the numbers so that they overlap. The file will look quite cluttered at this stage.



Click the Edit in ImageReady icon at the foot of the Toolbox, and in ImageReady open the Animation palette. Frame 1 will show the visible contents of the Layers palette. Initially it will show the overlapping numbers from each layer. Make all the number layers invisible, apart from number 1, by clicking the eye icon by each layer. Now only number 1 will be visible in Frame 1.

Click the Duplicate current frame icon at the bottom of the Animation palette (the icon just to the left of the trashcan symbol). This will create Frame 2 of your animation. Now pop up to the Layers palette, hide the number 1 layer and make the number 2 layer visible. Now Frame 2 will display the visible number 2 layer.

Click the Duplicate current frame icon again to create Frame 3. Hide layer 2 in the layers palette, and show layer 3, which contains the number 3. Repeat this process to create 10 frames displaying the numbers 1 to 10 in order. Now click the Play button, and the numbers will animate from 1 to 10 – you've created your first animation using Photoshop and ImageReady!

Typing text

To make each number appear on a separate layer, type a number, then click on another tool in the toolbox (such as the Move Tool) to temporarily deactivate the Horizontal Type Tool. When you reselect the Type Tool the next number you add will automatically appear in a new layer of its own. Don't place a new number too close to the previous one, in case you add it to the previous layer. To move the numbers, use the Move Tool.

Examine the animation

Once you've created your animation and played it back in Step 4, take a close look at the relationship between the Animation palette and the Layers palette. Stop the animation playing, then click on the 'Select next frame' icon at the bottom of the Animation palette, and as you step through each frame look in the Layers palette: you'll see the appropriate layer become visible, and the previous one disappear, as you advance through the frames.

Modifying your animation

Having created your animation, you can now fine-tune its look and timing in various ways

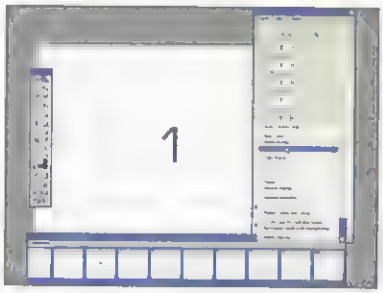
Perfect preview

To see a preview of your first animated GIF, click on the 'Preview in Ieexplorer' icon in the ImageReady toolbox; Mac users have a Preview in Safari icon that does the same job. You can also go to File > Preview and select another browser. Previewing the icon in a browser is a useful thing to do; as well as seeing the animation as it will look online, you can also see how large the final file size will be – our GIF weighs in at around a mere 7.69K.

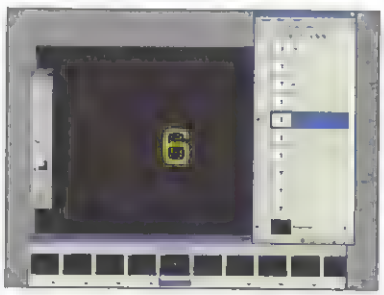
Using colour

To add more interest to your animation you could change the colour of the numbers as they count down from 10 to 1. Use the 'Set the text color' option to turn layers 5 to 2 orange, then make the number 1 on layer 1 a dramatic red. Adding more colour means the GIF has to include more information, but in our example this will push the file size up by less than a kilobyte. For more tips on optimising images, check out page 117 of Focus Guide 10, which you'll find on the cover disc.

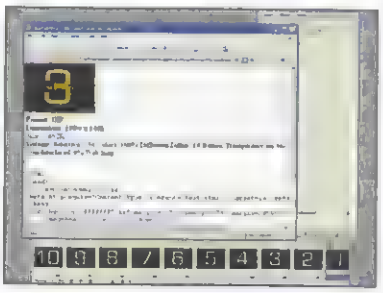
5 **When you play your animation the numbers change rapidly. To slow them down, [Shift]+click Frame 1 in the Animation palette, then [Shift]+click Frame 10 to select all the frames. Go to the Select frame delay time option at the bottom of Frame 1, and set it to 1.0 sec. This will change the delay time for all of the frames. Now the numbers will each appear for one second.**



6 **The animation will be more effective if the numbers count down from 10 to 1. To create this effect [Shift]+click again to select the ten frames in the Animation palette. Click to open the palette menu, and choose Reverse Frames from the list of options. Frame 1 will now display number 10 on layer 10, and the animation will count backwards from 10 to 1.**



7 **You can also change the layer content itself to make your animation look more interesting. The vector text is still editable, so click on a layer thumbnail. Go to the options bar and change the colour of the text using the 'Set the text color' option. Edit > Fill the Background layer with black to make the colour stand out.**

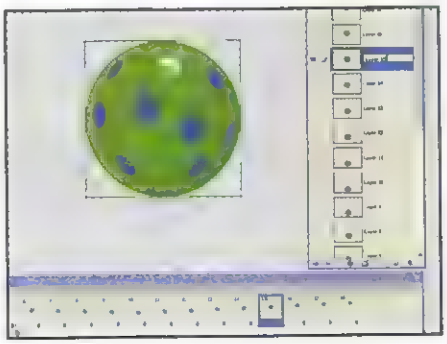


8 **If you want to create a small GIF you don't need all of the black background. Select the Crop Tool [C], and draw a box around the number 10 (the largest number) to crop the file down. You can now go to File > Save Optimized As. Name the file Countdown, and select Images Only (*GIF) from the Format options. You can now add the GIF to a web page as you would a JPEG.**

Animatable attributes

ImageReady can animate other Layers palette attributes in addition to visibility

We created our animated countdown clock by toggling the visibility of specific layers in specific frames. This is a great way of showing separate images in a specific order to create the illusion of movement, and is similar to the traditional cell animation technique. ImageReady can do more than just record the visibility of a layer's components at a specific frame, and as you progress through this guide you'll learn how to take advantage of a host of animatable attributes to create different types of animation.



In the next chapter you'll use tweening to animate the position of a layer's content and create multiple frames of animation

Check out the box below to see some of the other Layers palette attributes that ImageReady can animate.

Constraints

As you work through this guide you'll see creative walkthroughs that use all of the Layers palette's animatable attributes. You'll also discover some of the constraints involved in creating animations using the Layers palette, such as when trying to rotate an object. We'll show you tricks and techniques to help you overcome these constraints, to enable you to create more advanced animations.

See the movie...

Some of the creative walkthroughs that you'll encounter in this guide are accompanied by a movie on the cover disc. These training movies will talk you through the walkthrough step by step, and show you how to put animation theory into practice.

Animatable Layers palette attributes

Visibility As you've seen, you can use the Animation palette to record changes in the visibility of specific layers at specific frames. This enables you to change the content of each frame by modifying the visibility of layers in the Layers palette.

Position You can make an object move across the work area by changing the position of a layer's content. Thanks to tweening you can use two key frames to make an object move smoothly from one part of the screen to the other without having to draw the intermediate frames. We'll look at tweening in the next chapter.

Opacity You can make objects fade in and out by altering their layer's opacity, or by making them dissolve into a blank frame using tweening.

Layer styles You can animate layer styles to achieve all sorts of effects, like the rotating metallic reflection inside the shiny logo on page 41.

Chapter 2

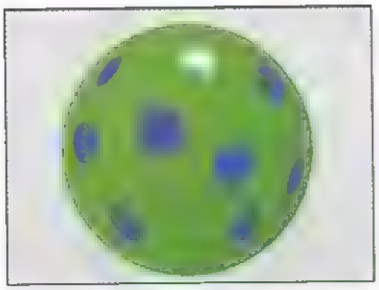
GETTING THE BALL BOUNCING: THE BASICS

Following this traditional 'bouncing ball' animation exercise will help you to understand the process of creating assets in Photoshop, and then making them move in ImageReady

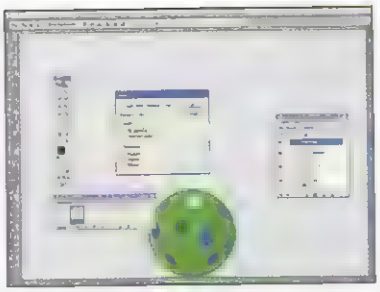
The best way to understand how ImageReady enables you to turn static Photoshop layers into all-singing, all-dancing animations is to create a simple shape in Photoshop, and make it move using ImageReady's Animation palette. For decades trainee animators have taken their first steps into the magic world of creating movement from static images by animating a bouncing ball. This simple exercise provides a perfect introduction to animating in any medium, as the source material is simple to produce and animate. Animators who draw by hand can quickly sketch a ball on separate pages of a flick-book to show it falling, hitting the ground, deforming to give it a sense of mass and then regaining its shape as it springs back into the air.

Tweening

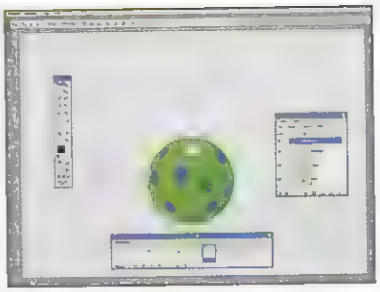
3D modellers using packages such as Maya will also often start with the bouncing ball animation, because all 3D applications can create a sphere at the click of a mouse. To move the ball from the air to the ground they start by setting key frames. The first key frame shows the ball in its starting position in the air, and the second key frame shows the ball hitting the ground. The 3D package's tweening feature fills the



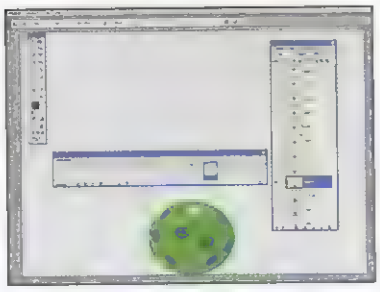
Page 22 *Create the assets for your project using Photoshop's tools*



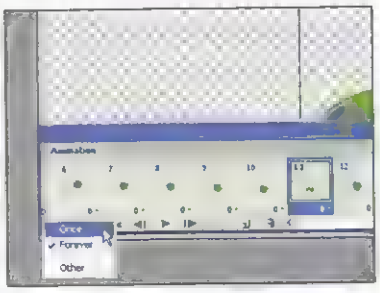
Page 24 *Create key frames to define your object's start and end points*



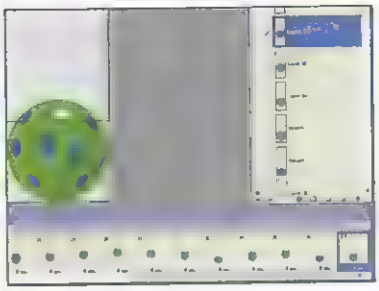
Page 24 *Make the ball move by using tweening to create intermediate frames*



Page 28 *Add character to the ball by making it deform on impact*



Page 30 *Change the looping options to alter the behaviour of your animation*



Page 35 *Optimise your animation to make it easier to download*

gaps between the start and end positions, saving animators the chore of drawing all the intermediate frames that make up the sequence. Tweening enables them to bash out an animated movie in seconds, as they only have to manually position the ball for two frames, whereas the flick-book artist has to draw all the intermediate frames to make the ball fall from the air to the ground.

ImageReady works in a similar way to 3D applications, and web animation packages like Flash, in that it also enables you to tween between key frames. In this chapter we'll show you how to create a bouncing ball by defining a start point and an end point, and the software will fill in the intermediate frames automatically to create an animation that shows the ball falling.

Adding character

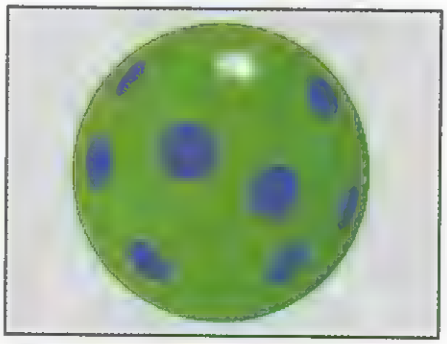
3D modellers will make their ball appear to compress on impact by using deform tools to squash their sphere, and we'll use Photoshop's Transform options to do the same job. As you work through this chapter's simple exercises you'll begin to see how Photoshop and ImageReady work as a team, enabling you to jump back and forth between the packages to modify your animation, or to create new content.

Creating the content

We'll create the source material we need for our bouncing ball animation in Photoshop

Ball.psd
By creating your own ball you'll see how easy it is to produce source material for your animations from scratch using Photoshop's tools. However, if you want to save time you can find the ball source file that we use in this chapter on the disc, so you can get straight on with the business of animating it.

One of the reasons why novice animators use this exercise is that the assets are easy to create. Open Photoshop, and create a new file by going to File > New. Create a file that's 624x424 pixels in size, and give it a resolution of 144 pixels. This is a larger resolution than your typical animated GIF requires, but at this stage in the production process it's easier to create the assets at a higher resolution, and shrink them down later; you don't want to strain your eyes working at a fiddly 72dpi. Check out the annotated screenshot below to see how to create the simple ball that we're going to animate over the next few pages.



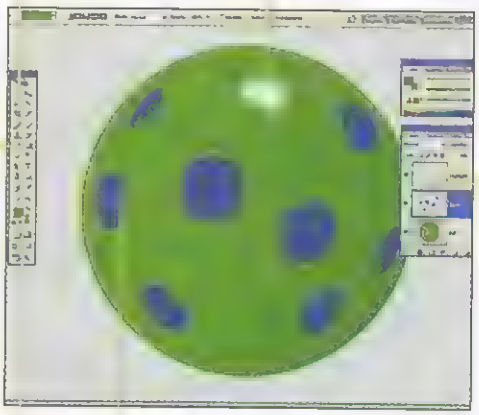
We can create a ball with a shiny texture and 3D look using Photoshop's Brush, Marquee and Gradient tools, and the Free Transform options

GET THE BALL ROLLING...

Use the Elliptical Marquee Tool [M] to draw the body of the ball. Hold down [Shift] to make the tool draw a perfect circle.

Use the Gradient Tool [G] to fill the circle, using lighter and darker versions of your chosen colour to add a shadow to the ball.

Choose the colours for your ball and its spots by clicking on the toolbox swatches to open the Color Picker dialog.



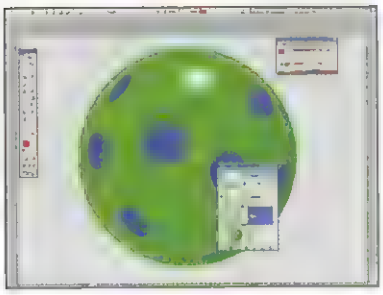
On a separate layer use the Brush Tool to spray a specular highlight, to add to the 3D effect.

We've created our source file using separate layers. You'll see the advantage of using layers later, when we rotate the ball.

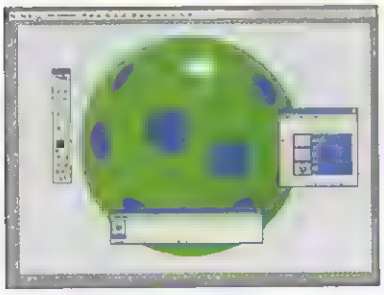
We added the blue spots in a separate layer using the Elliptical Marquee Tool. To enhance the 3D effect press [Ctrl]+[T] ([Command]+[T]) to activate the Free Transform options, then rotate and squash the spots.

Into ImageReady

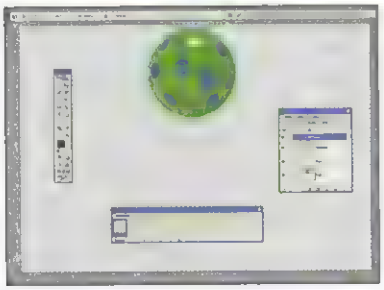
Now we'll open our source file in ImageReady, and start turning static layers into movement



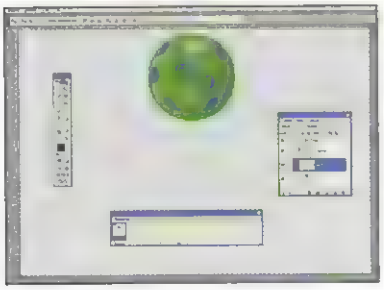
Once you've created your ball save it as Ball.psd, so you have a full-sized version of the ball (or open our Ball.psd source file from the disc). Then click on the Edit in ImageReady icon at the bottom of Photoshop's toolbar – alternatively press [Shift]+[Ctrl]/[Command]+[M] to do the job with a keyboard shortcut.



The ball document will open in ImageReady. Go to ImageReady's options bar at the top of the screen, and choose the Direct Select Tool. Click and drag the cursor over the ball to select all its layers in one operation. Group the selected layers together by pressing [Ctrl]/[Command]+[G], or go to Layer > Group Layers. Label the grouped layers 'Ball Group'.



Select the Ball Group, and press [Ctrl]/[Command]+[T] to activate the Free Transform options. These work in the same way as in Photoshop. Hold down [Shift] to constrain the ball's shape, and drag a corner handle to scale it down. Hit [Return] to apply the transformation. Then use the Move Tool [V] to position the ball in the air.



Now turn to the Animation palette (if it's not visible go to Window > Animation). Frame 1 shows your transformed layers with the ball hovering in the air. The first frame will show by default all the layers that are visible in the Layers palette. The ball is now ready to be animated.

Selection

In Step 2 we use the Direct Select Tool to select all the ball's layers. This is a tool that's unique to ImageReady CS2 – if you're using older versions of ImageReady you can select all the layers by holding down [Shift] and clicking on them in the Layers palette.

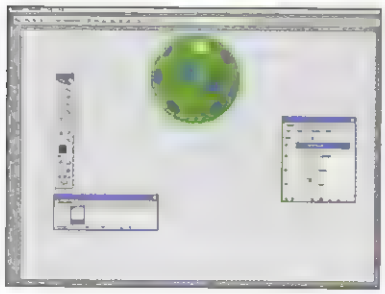
On target

In ImageReady CS2 the active layer that has been targeted in the Layers palette is indicated in the work area by a blue box; this is a handy way of selecting, organising and manipulating layers. If you click on an object in the work area with the Direct Select Tool it will be selected in the Layers palette.

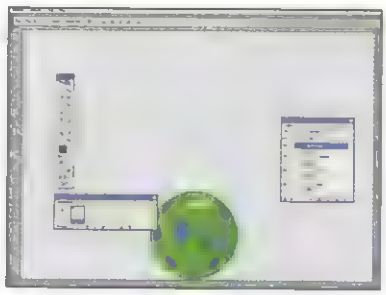
Key frames and tweening

Create key frames, then tween them to add intermediate frames of animation in seconds

Down, not sideways
When you move the ball in Step 5, hold the [Shift] key as you move it to prevent the ball from moving horizontally. It's important that the ball doesn't fall to the left or right, because it needs to bounce back up to its original position – it would look odd if the ball fell to the left, then bounced back to the right without hitting an obstacle to cause this behaviour.

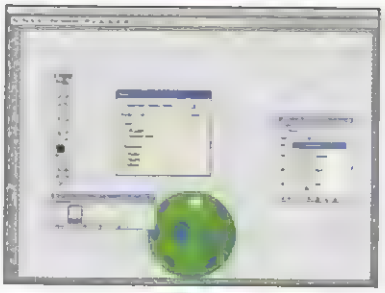


Go to the Animation palette, and click the 'Duplicates current frame' button. You'll now have two identical frames in the palette, and Frame 2 will be highlighted in blue. Select the Move Tool, and make sure it's set to Layer Move Tool in the options bar. Click on the Ball Group layer in the Layers palette, so that all the ball's layers will be moved by the tool.

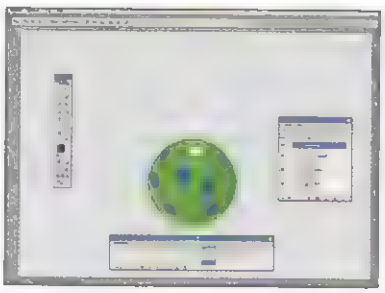


Hold down [Shift], and drag the ball to the bottom of the canvas. Look in the Animation palette: Frame 1 shows the ball in the air, and Frame 2 shows the ball on the ground. Press the Animation palette's Play button, and the ball will jump between its start and end positions.

Cool key frames
Thanks to tweening you can create many intermediate frames from two key frames. A traditional non-digital animator would have drawn the ball on a transparent cell, and recorded the cell moving in small increments. Thanks to ImageReady we don't need to record our ball's movements in a step-by-step fashion – a couple of key frames and the Tween dialog will do the job.



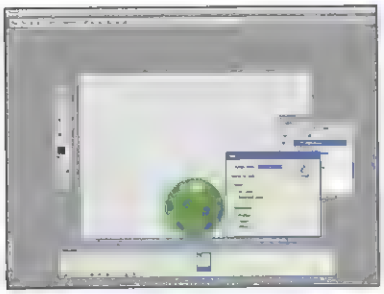
To turn the ball's two flickering key frames into a smoother, multi-frame animation, target Frame 2 in the Animation palette by clicking on it. Then click on the Tween button at the bottom of the Animation palette, and choose Tween With: Previous Frame. In the Tween dialog go to the Frames to Add section, and type in a value of 8. Set Layers to All Layers. Click OK.



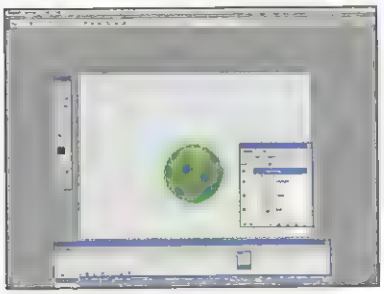
You'll now have 10 frames of animation in the Animation palette. Press Play, and watch the ball move between the first key frame and the last. ImageReady automatically creates intermediate frames between the ball's start and end positions, creating the impression that it's falling.

What comes down...

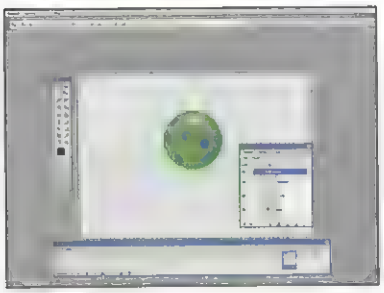
...must go up! Add more frames to make the ball bounce back to the top of the canvas



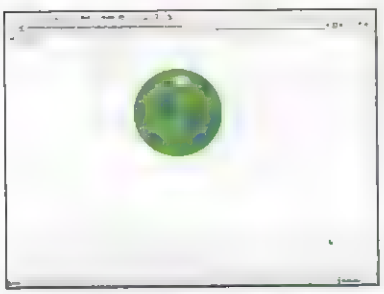
To make the ball bounce back into the air target frame 10, the last frame in the Animation palette. Click the Tween button again. This time set the Tween With option to First Frame; this will generate more frames to make the ball move from the ground back into the air. Add eight more frames, and click OK.



ImageReady automatically generates more frames to take the ball from the ground in frame 10 back to its starting position. Your original two key frames have been used to create a sequence consisting of 18 frames. Play the animation, and set the looping option to Forever. The ball will bounce up and down continuously – stop the animation when you've had enough!



Click repeatedly on the 'Selects next frame' button in the Animation palette and watch the ball move step-by-step, and look in the Layers palette. The three layer thumbnails that make up the ball's texture, spots and highlight all update to indicate the new position of each layer's content for each frame in the animated sequence.



Test the animation by clicking the 'Preview in ieexplorer' icon in ImageReady's toolbar (Mac users can access Safari). The browser will open, and you'll see how the animation will play when viewed online as an animated .GIF. At this stage the bouncing ball is far from convincing, so over the next few pages we'll look at ways to make the ball bounce more realistically.

Looking

In Step 10 your ball will keep bouncing non-stop because the looping option is set to Forever. To create a smooth and seamless loop the last frame in the sequence (frame 18) is not identical to the first frame (frame 1). This is because two identical adjacent frames in a looping sequence would cause the cycling animation to stutter, as they would play twice, while all the other frames play just once.

ImageReady versions

The walkthroughs and projects in this guide have been created using ImageReady CS2 – it's very similar to the CS incarnation, but we'll point out any important differences as we go. If you have an older copy of ImageReady you'll find lots of extra information in the PDF version of Focus Guide issue 10, which is on the cover disc.

Faking physics

Mimic real-world physical effects to make your bouncing ball animation more convincing

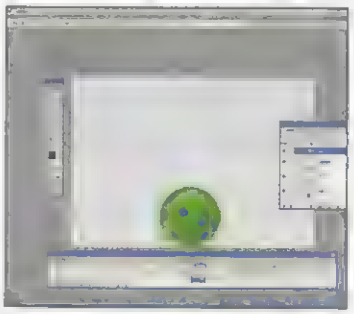
Do it for real
We take the physics of the world around us for granted, but the influence of wind resistance, friction and momentum (as well as the material the ball is made of) have to be painstakingly added to our animations as hand-crafted key frames. Experiment by bouncing a ball – you'll soon see how complex its behaviour is compared with our initially simple animation.

Once you've finished previewing the animation in your web browser close it. Go back to ImageReady, and play the falling ball animation again. The ball's movement is less than convincing, because it appears to have no mass or substance. In the physical world the ball would be affected by a variety of factors that don't exist in the virtual world. Real rubber balls have elasticity, and an impact with the ground temporarily changes their shape. However, our animated ball remains a perfect sphere, and after hitting the ground it appears to float up rather than bounce, as if it were a balloon filled with helium. In addition, a real ball's energy would be absorbed by its impact with the ground, affecting its speed. Our virtual ball lacks all the subtle visual cues that we witness when a ball hits the ground in real life. Fortunately, Photoshop and ImageReady have all the tools and techniques that we need to make our ball behave more realistically, by causing it to deform when it lands, and regain its shape when it springs back into the air.

THE LIMITATIONS OF TWEENING

Changing the ball's shape isn't as easy as changing its position

Changing the shape of the ball in ImageReady to make it squash when it hits the ground is not as straightforward as it sounds. Your instinct might be to go to the frame in the Animation palette where the ball lands, and use the Transform options to deform the ball at that particular frame. However, if you do that ImageReady will alter every frame in the Animation, so that the ball will fall and bounce in its squashed state. This is due to the fact that although you can tween the position of a layer's content to make it move, you can't tween a transformation that changes the ball's shape. Fortunately, you can overcome this constraint.

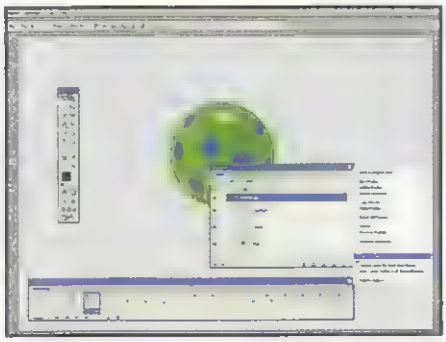


When the ball hits the ground you need to create a squashed version, to give it a sense of mass

Frames into layers

Before you can modify the frames of your animation you need to convert them into layers

On the next page you're going to add more frames and layers to your project, and transform specific layers to make the ball squash and stretch. At this stage in the project the Layers palette contains the component layers that make up your ball's shape and texture. As you step through the frames in the Animation palette, the position of the components in the Layers palette changes. To enable you to modify individual frames in the sequence (to squash and stretch the ball on impact with the ground) you'll need to convert the 18 frames in the Animation palette into 18 new layers – see below for how to do this.



ImageReady enables you to turn frames in the Animation palette into new layers, so that you can modify individual layers

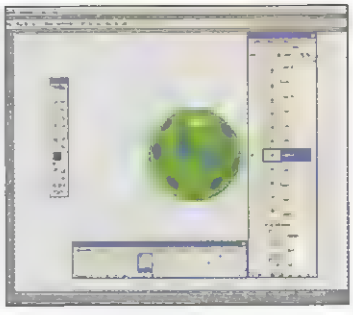
Save it!

This stage in the project is a good time to go to File > Save As, and save your project. Save it as Ball02.psd. If you get lost while you're adding extra frames and layers to your project, you can retrace your steps and start again by going to File > Revert (or simply hit the [F12] key.

ONE-CLICK CONVERSION

Turning your frames of animation into editable layers is simple

Click the arrow button to open the Animation palette's menu, and select the Flatten Frames Into Layers option; this creates 18 new layers in the Layers palette. Step through the sequence frame by frame. As you advance through the frames in the Animation palette (using the 'Selects next frame button') the relevant layers in the Layers palette become visible or invisible – notice the layer visibility eye icon appear for individual layers when it's their turn to make an appearance in the sequence. There's also a 'Selects next frame in animation' button at the bottom-left of the Layers palette, enabling you to step through the sequence.



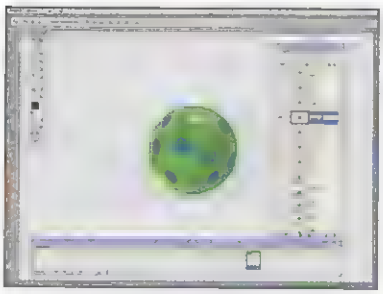
As you step through the sequence in the Animation palette, each layer becomes visible in the Layers palette

Squash the ball

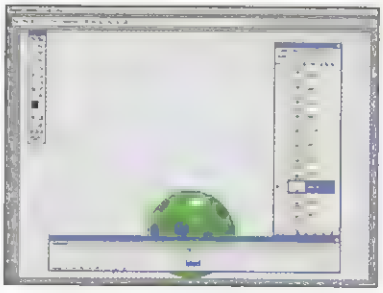
Modify individual layers to create new frames that add character to your animated ball

By the numbers

In step 4 we squash the ball by dragging the transformation handle downwards with the cursor. For a more precise deformation you can type in a number of pixels by which the ball is squashed, using the Input boxes in the options bar.



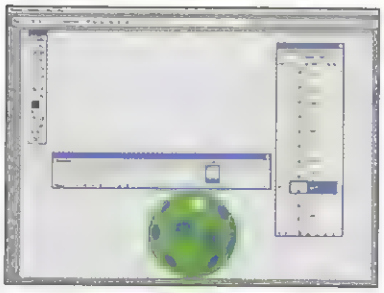
1 Before continuing, re-label the 18 new layers to correspond with the frames in the Animation palette. When Frame 1 is selected in the Animation palette, the visible layer in the Layers palette should be called Layer 1. This will stop you getting confused when you need to target and modify specific frames in the sequence by editing the appropriate layer's content.



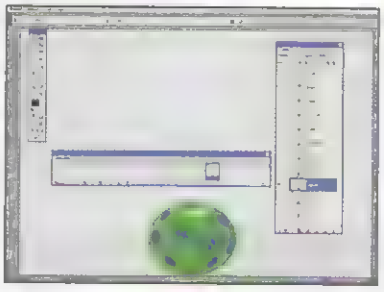
2 Advance to frame 10 in the Animation palette; this is the frame in which the ball hits the ground. Notice that Layer 10 is the only layer visible in the Layers palette, as this is the layer that corresponds to frame 10. In the Animation palette click the 'Duplicates current frame' icon: this creates a new frame for Frame 11, so you'll now have 19 frames in the Animation palette.

Where's layer 1?

When you convert your 18 animated frames into 18 layers, notice that the layer corresponding to frame 1 is called Layer 2 – you might have expected it to be called Layer 1. This occurs because layer 1 is already occupied with content. ImageReady keeps the ball's component layers in the Layers palette in case you need access to them at a later stage. The original ball component layers remain invisible throughout the sequence, as they're no longer needed to generate frames.



3 Select Layer 10 in the Layers palette, and drag it to the Create a new layer button to create a copy. Call the copied layer 'Squash'. Advance to the newly created Frame 11 in the Animation palette. Notice that both Layer 10 and Squash are visible in the Layers palette. Turn off Layer 10, so that only the Squash layer is visible when we get to Frame 11 in the Animation palette.

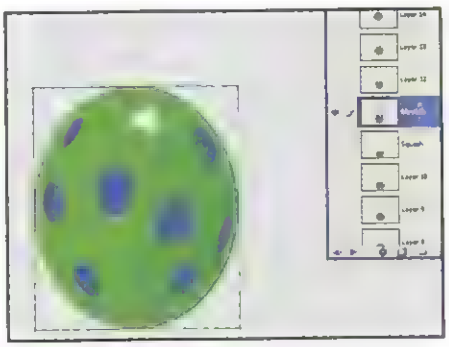


4 Target the Squash layer in the Layers palette, and go to Edit > Transform > Scale. This creates a transform bounding box around the ball. Squash the ball by dragging the bounding box's top middle handle down a few pixels. Click OK to apply the transformation. Play the sequence, and watch the ball land in frame 10, and then squash in Frame 11.

Stretch the ball

The next step is to make our ball stretch as it starts to spring back into the air

The ball will now squash when it hits the ground, thanks to the extra frame you added to the Animation palette and the extra 'Squash' layer that you added to the Layers palette. By modifying layers you can enhance a simple sequence, and make it far more convincing. Follow the instructions below to modify one of the existing frames in the bouncing ball sequence – by making the ball stretch as it leaps into the air you'll end up with a much more realistic animation that gives the ball a sense of weight and elasticity. You can apply these techniques in all kinds of ways to create and enhance other animations.



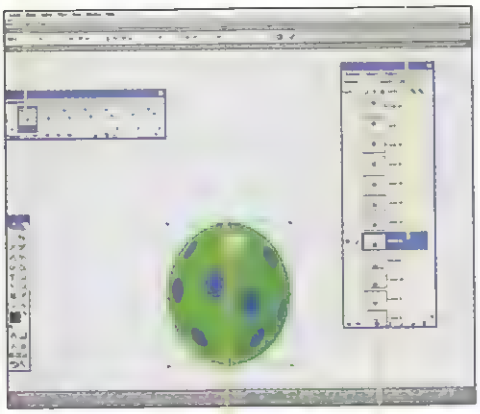
By stretching the ball as it leaps into the air you can enhance the animation, and give the ball more character

Squash&Stretch.gif

To see how your animation should be shaping up, play the Squash&Stretch.gif from the CD. This will show you what your animation will look like after adding a new frame in which the ball is stretched when it bounces off the ground. You'll also find a PSD file called Ball03.psd – this is what your own project should look like at this stage. You can play the animation frame by frame, to see how the various layers change.

Stretching the ball

Advance to Frame 12, which shows the ball as begins its leap into the air. Layer 11 will become visible in the Layers palette.



Re-name Layer 11 'Stretch'. This is the layer that you're going to modify to create a stretched ball that appears in Frame 12.

Target the Stretch layer in the Layers palette, then Edit > Transform > Scale the ball to make it stretch upwards.

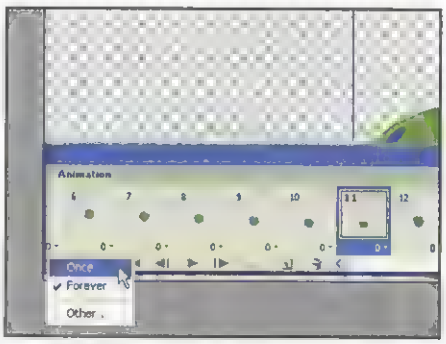
Test the frames by clicking here to move through the animation step by step. The relevant layers will become visible when required to create the animation.

Bounce to a stop

Modify the animation to make the ball bounce progressively lower, before coming to a halt

Key frames
Your 19 frames of animation were created from two original key frames, and as you've worked through the bouncing ball project you've discovered how to modify tweened frames to add character to the sequence. On this page you'll add more events to the animation by modifying existing layers in the Layers palette, enabling you to build up a more complex animation from just a couple of key frames.

At this stage in the project the 19 frames that make up the animation enable the ball to bounce forever, because the position of the ball in the last frame (19) allows it to smoothly cycle back to Frame 1 with no noticeable hesitation. This enables you to keep the ball looping forever, if you want, as a GIF. Alternatively, you can make the ball behave more realistically by modifying the frames to make it bounce less and less until it comes to a halt – this will mimic the physical effects of friction. To make this effect work you will of course have to change the looping option to Once, rather than Forever.

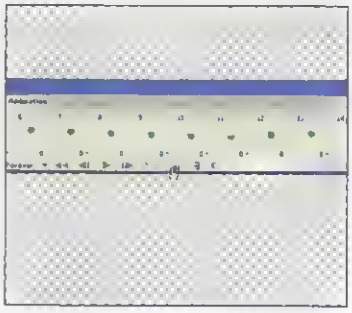


You can create a more realistic animation by having the sequence play once, instead of looping forever

SLOW THINGS DOWN

Add new frames, and modify the visibility of existing layers

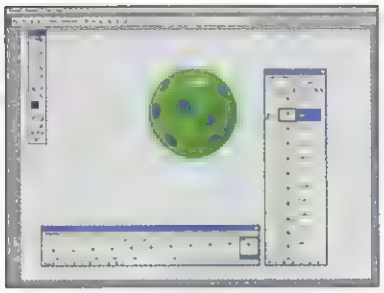
You have all the layers you need in the Layers palette to make the ball slow down and stop – all you need to do is add some new frames in the Animation palette, and change the visibility of the existing layers, to make the ball bounce several times, but have it bounce less high each time. You can then fine-tune things such as the timing of the last few frames, to make the last couple of short bounces a little bit faster than the rest as the ball finally comes to a halt. This will create a more realistic animation, although by adding more frames you'll create a larger GIF. Follow the walkthrough opposite to bring the ball to a halt.



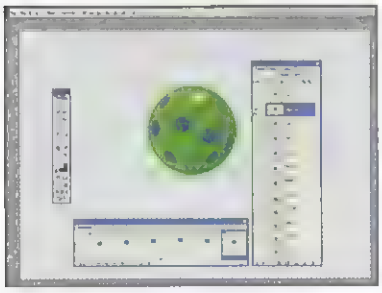
By adding new frames you can reduce the height to which the ball rises after each bounce

Editing your layers

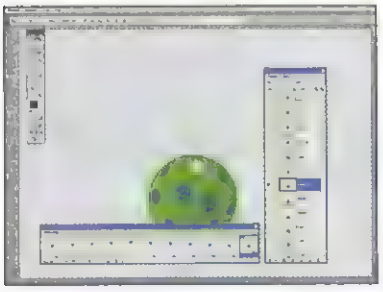
Add some new frames, and modify the layers to make the ball bounce gradually to a halt



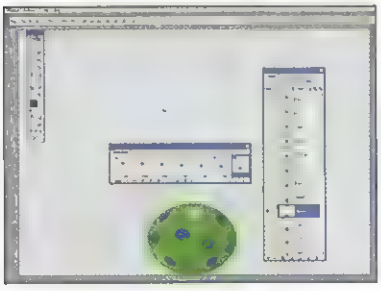
1 Select Frame 19 in the Animation palette, and click the 'Duplicates current frame' button to create Frame 20; this creates a copy of the frame showing the ball at its highest position. Make sure Frame 20 is selected. Go to the Layers palette and turn off the visibility of layer 18, which shows the ball at its highest point. Turn on layer 17 to make the ball begin to fall.



2 Target frame 20 in the Animation palette, and duplicate it to create Frame 21; frame 21 will automatically become selected. Go to the Layers palette and turn off the visibility of layer 17, and turn on the visibility of layer 16. This will make the ball continue to fall.



3 Repeat this technique, and keep duplicating the latest frame in the Animation palette, then editing the relevant layer's visibility in the Layers palette to make the ball drop lower, until you get to Frame 25. This frame should be showing layer 12, which is just above the Stretch layer.



4 At this stage you don't want the ball to stretch before it hits the ground, as this will look wrong (and give the game away that you're using the same layers that made it bounce up). When you duplicate Frame 25 make the 'Squash' layer (not the 'Stretch' layer) visible, so that the ball deforms on impact. The ball will now fall, bounce, fall again, and stop in the squashed position.

Ball03.psd

You should have your own version of the animated bouncing ball by this stage. If you've encountered problems, and want to follow the walkthrough on this page, you can use Ball03.psd from the CD as a source file. It contains the 19 frames and 18 layers that we'll show you how to modify in these steps.

Ball04.psd

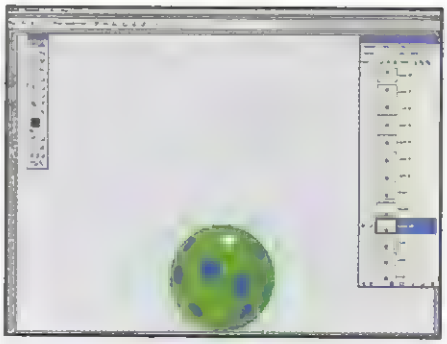
To see how your project should behave once you've finished modifying the frames and layers in this walkthrough, take a look at Ball04.psd. It shows the ball falling, bouncing and falling again until it stops in the squashed position. Make sure that the looping option is set to Once.

Finish the sequence

Continue adding frames and modifying layers until the ball finally comes to a halt

Ball05.psd
Compare your project with the one we used in this walkthrough to see how it shapes up. You could make your animation more realistic by adding extra key frames, although this will bump up the file size of the finished GIF.

On the previous page you created new frames in the Animation palette, and changed the order in which the layers became visible to make the ball bounce less high after its second impact. At the end of the walkthrough the ball had landed for the second time in its squashed position. You should now be able to create a new frame, turn off the Squash layer and turn on the Stretch layer to make the ball take to the air again. Carry on adding new frames, and making the relevant layers visible, to make the ball bounce again, making it bounce less high each time until it eventually comes to a stop.



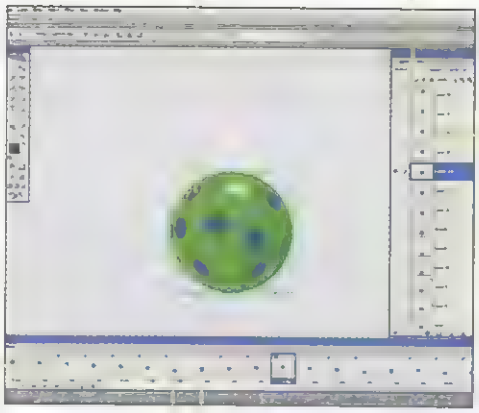
After the final squash frame, complete the sequence by creating a new frame and turning on the layer with the ball in its original shape

Analyse the finished project

Throughout the project we've been manipulating a grouped set of layers. These original layers are still in the Layers palette, should we need to access them.

If you drew a line through each thumbnail you'd get a curve that would decrease as the ball bounces lower, and then stops. This helps you to get an understanding of the ball's movement.

Here we can see where the Squash layer is made visible in the Layers palette.



Our finished animation used 18 layers to create 37 frames. We could have used the same number of layers to add a few extra bounces.

To make the ball land we used the same layers that made it spring upwards; this saves on the number of layers that are required to create the sequence.

After the ball has become squashed on impact, it stretches as it begins to rise back into the air.

Optimise your animations

Optimise your large animated GIF to reduce its resolution and file size, so it downloads faster

Before we save our animation in a format suitable for online viewing, let's have a quick recap to reinforce what you've learned from this chapter. By following the walkthroughs you've created a simple ball source image composed of three layers, and then used the Animation palette to create multiple frames of animation from these source layers. The first animation you made featured a ball bouncing in a simple cycle. You then turned the frames into additional layers, and used them to make a more complex animation that had a beginning, middle and end (the ball falls, bounces and comes to a halt). You then learned how to add character to the ball, and make it behave realistically, by creating and transforming additional layers to make it appear to squash and stretch on landing and take-off.

Both animations were created from a source file that's much larger than the average animated GIF. To finish off our ball project we'll look at ways of cutting the files down to size, to create a web-friendly GIF.

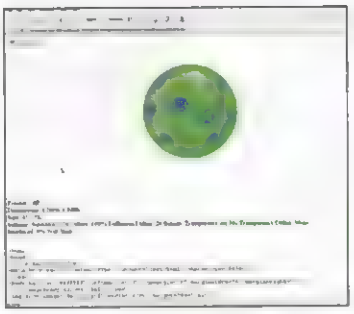
Web optimisation

For a detailed look at optimising images for the web read through Chapter 3 of Photoshop Focus Guide 10, which you'll find on the CD. This guide focuses on web imagery more than web animation, but the tips and tricks it contains will still help you to create smaller animated GIFs.

Export to a browser

Use Internet Explorer (or any browser) to analyse your GIF

Let's optimise the looping animation first. You'll find our version of that on the CD (BallLoop.psd). In ImageReady, click on the 'Preview in ieexplorer' icon in the toolbar. When the animation appears in the browser window scroll down. This will give you lots of useful information about the GIF that ImageReady has created, including file size. Our GIF weights in at a hefty 455.5K, and has a monstrously large dimensions of 1200 pixels wide by 848 pixels high. It's easier to work with a large file in Photoshop and ImageReady, but we need to do a bit of work so that it won't take ages to download, and appear too large in a browser.



When you preview your GIF in a browser you'll be able to see its size and dimensions

Reduce the file size

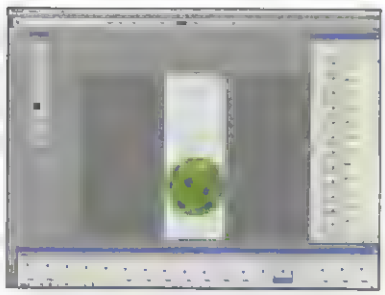
Trim off any unnecessary 'fat' to create a lean and lightweight animated GIF

Full screen mode

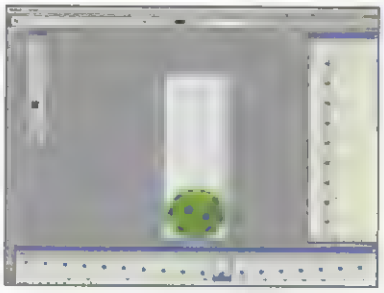
Before cropping your file to make it narrower, press the [F] key. This changes the interface from Standard Screen Mode to Full Screen Mode with Menu Bar. This mode places the image at the centre of your screen, and changes the rest of the background to a neutral grey, enabling you to work on cropping the file without being distracted by other on-screen elements.

On target

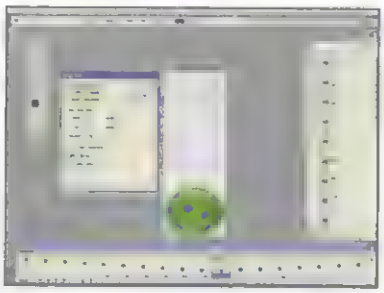
When you're using a tool such as the Crop Tool, the cursor changes to a new icon specific to that tool. The shape and design of some cursors makes it quite tricky to decide exactly what pixels you're selecting, so to turn a tool's icon into a more useful target crosshairs icon simply press the caps lock key: you can now be more precise when using a tool to select specific pixels.



Close your browser window, and go back to your file in ImageReady. As the ball only bounces up and down on the spot, the file contains lots of unnecessary information to the left and right of the ball. To remove the empty parts of the file select the Crop Tool [C]. Draw a marquee around the ball, so that the unwanted edges of the file are greyed out.



Hit [Return] to crop the file. This will create a narrower, more suitably shaped file. Hit the Play button to make sure each frame is still visible, especially when the ball squashes and stretches. If you've over-cropped any frames press [Ctrl]+[Z] to undo the crop. Target a problem frame in the Animation palette, and re-crop to make sure that the ball isn't clipped in any frame.



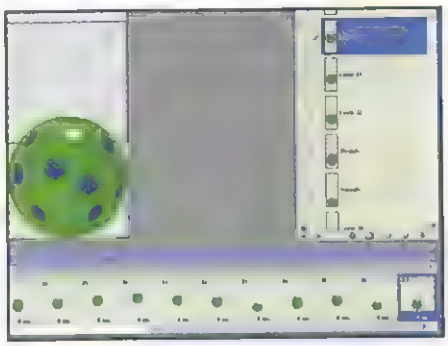
Now it's time to cut the animation down to size by reducing its dimensions. Go to File > Image Size. In the Image Size dialog box we can see that our file is a whopping 323 pixels wide by 848 pixels high. You can either type in smaller dimensions, or reduce the percentage to 40%. This creates a smaller file of 129x339 pixels, which is more suitable for viewing in a browser.

Click OK to apply the changes. Save the file as BallLoop.PSD (so you can access your larger original file if required, and make changes to it at a higher quality). Preview the image again, and you'll find you have a much smaller and lighter GIF. Feel free to trim the image's size down even more, to make the file even smaller.

Create the finished GIF

Save your two versions of the animated ball project as GIFs for export to the web

Our second ball animation (BallOnce.psd) consists of more frames (37 in total) than the looping version (20 frames), as we had to use more frames to make the ball bounce a few times before coming to rest. This creates a larger GIF: previewing the BallOnce.psd file as an un-optimised animation shows us that the final file will be a hefty 839.4K. Use the techniques described on the previous page to crop away the unwanted area around the BallOnce.psd file, and make sure it's set to play Once in the Animation palette. After cropping, reduce its size to 40% – the optimised version will weigh in at around 200K.



The second ball animation (BallOnce) has more going on in it; as a result it contains more frames, and makes for a larger GIF

Play it again

When you preview the animation that shows the ball bouncing once, it will play once then stop at the last frame. To see it fall and bounce again you'll need to reload it into your browser. Press [Ctrl]/[Command]+[R] to make it play again. To see our versions of the bouncing ball drag the BallOnce.gif and BallLoop.gif to your browser's icon – the GIF will happily play in a browser without any need for it to be installed on a machine.

Save your animation

Turn your file into a self-contained GIF that will play in a browser

At the moment, only people with ImageReady can view your animation. To make it available to passing web surfers who don't have ImageReady, go to File > Save Optimized As. In the dialog box that opens give your animation a name. At this stage you only need to choose Images Only (*.gif) from the Format menu; we'll look at the other file type options later, when we start to combine animations with image maps, and need an HTML file to organise things. Stick with Default Settings as the Settings option for the moment; this will create a .GIF that's the same size and resolution as the browser preview indicated it would be.

Turn your projects into optimised, lightweight animated GIFs using the Save Optimized command

Chapter 3

CREATING LOGOS FOR TV AND THE WEB

Develop your animation skills by creating logos that you can use to augment your websites – you'll discover some powerful new tools and techniques in the process

The skills that you'll pick up by working through the exercises in this chapter can be used as a springboard to creating much more complicated animations. The techniques required to animate a text layer so that it zooms in or out can be applied to your own graphics, to create your own unique, website-enhancing logos for example.

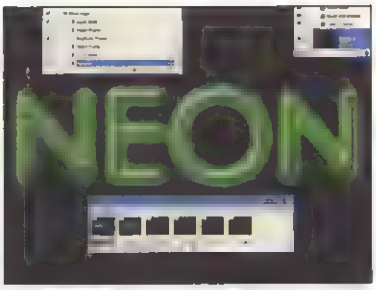
Flying logos

The phrase 'flying logos' is used in the creative industries to describe one of the main 'bread and butter' jobs undertaken by animators. Every company needs a logo to help brand itself and its products, and many designers find that a large chunk of their time is taken up in creating animated logos. Logos that are seen on the web, or on a TV screen, often feature an animated element. This can range from a subtle glint of light moving across a static logo to having the letters of the logo fly into position one by one. Animating a logo helps draw attention to it, and having an animated logo can also make your own website look more visually interesting, and may encourage surfers to stick around and explore your site's content.

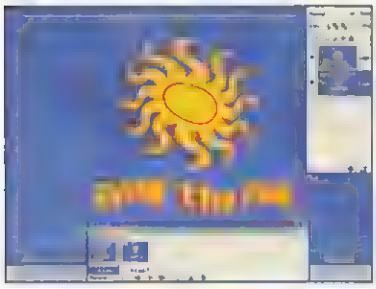
Photoshop and ImageReady possess plenty of tools to help you

Page 40 *Create an animated band of light that reflects off a logo*

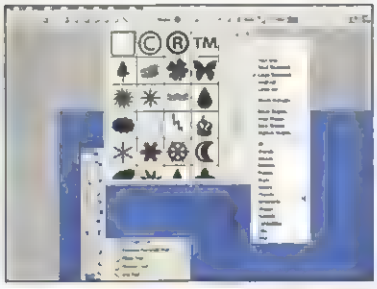
Page 41 *Tween layer style settings to make your logo's reflection rotate*



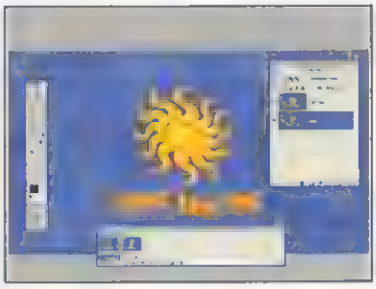
Page 46 *Create an action to add a flickering animated glow to any text*



Page 48 *Create and animate a logo designed to be played on TV*



Page 50 *The Custom Shape Tool is a valuable graphic design resource*



Page 53 *Use Photoshop's Displace filter to make your animated flag flutter*

create animated logos for both the web and the TV screen, and you can even create animated title sequences for videos or DVDs from the comfort of Photoshop's interface. You'll learn how to use the tweening technique covered in the previous chapter to create many different types of movement; we'll show you how to zoom, slide and even rotate layers to create a variety of typical flying logos. You'll also discover how to tween other Photoshop attributes, like layer styles, to add logo-enhancing effects such as moving reflections in metallic text. We'll show you how you can edit the attributes of dozens of layer styles to create all sorts of animated effects quickly and effectively.

Overcoming constraints

In this chapter you'll also discover how you can overcome some of the constraints you'll face when trying to create specific types of animation in ImageReady. You can't tween an object to make it rotate for example, so we'll show you how you can work around this constraint. And, if you create a flying logo to be viewed on TV, you'll need to know how to avoid it appearing squashed – check out page 48 to discover the crucial difference between a PC monitor's pixels and those on a TV screen.

Glinting text effect

Create a 3D metallic logo, and make it glint using tweening and a layer blending mode

Glinting Logo.gif
To see how effective the glinting light effect can look, check out the finished GIF on the cover disc. All the movement in the animation is created by tweening a single layer to move from one side of the logo to the other. You can create striking logos like this in a matter of minutes!

When creating an animated logo it's hard to avoid falling into cliché, and many companies and organisations use metallic-looking logos that feature an animated light effect glinting off the surface of the logo's lettering. However, clichés exist for a reason, and adding a touch of animated light reflecting off a metallic logo is an effective yet subtle way to give your static logo a hint of eye-catching movement; by animating the light effect you avoid the need to make the logo's letters jump or zoom around the screen. The glinting metallic logo is a simple yet fun effect to create in Photoshop and ImageReady.

If we use the Normal layer blending mode the white bar layer will remain solid, obscuring the text instead of making it glint

Beautiful blends

Use a layer blending mode to create the animated glinting effect

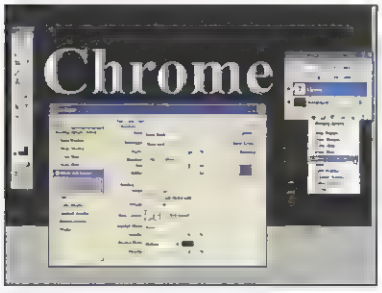
By default, a Photoshop layer is set to the Normal blending mode. By changing the blending mode of a layer you can create all sorts of dramatic and creative effects to enhance your animations. In the following walkthrough you'll use the Overlay blending mode to make a solid white bar on a top layer cause the text layer beneath to glint like metal. The Overlay blending mode will make most of the white bar vanish, so only the areas of the white bar that overlap the letters will stay visible. Once you've mastered the technique covered in the walkthrough, experiment with other layer blending modes to see how they affect your animation.

Changing the white bar layer's mode to Overlay enables the text beneath to glint as the bar moves across it

Creating the text

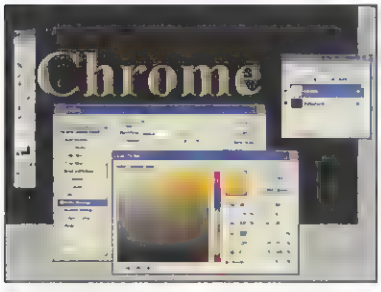
The first step is to create the metallic text, by combining a variety of Photoshop's layer styles

1 **Create a new Photoshop document. Select the Horizontal Type Tool, and select a font from the options bar – we chose Times New Roman, and set it to Bold to create a logo with strong letters that would look good in chrome. Type some white text on a black background.**



2 **To give the logo's 2D letters a more striking 3D appearance, click the Add a layer style button at the foot of the Layers palette, and choose Bevel and Emboss from the menu. In the Structure section choose Inner Bevel, Set Technique to Chisel Hard, Increase the Depth to 181%, and set the Size of the bevel to 8 pixels. Click OK.**

3 **To make the letters look more shiny, tick the Satin option in the Layer Style dialog box. Click on the word Satin to edit that style's attributes, and set the Opacity to 56% to increase the contrast between the light and dark parts of the logo. Set Angle to 39%, and set Distance to 15 pixels to offset the Satin effect.**



4 **To add a hint of colour to the logo tick the Color Overlay option in the Layer Style dialog box, and click on the words Color Overlay to edit the style's attributes. Choose a colour for your logo by clicking on the colour box to activate the Color Picker. Reduce the Opacity of the colour to 47% to make the effect more subtle. You now have a solid-looking metallic logo.**

Do it yourself

In this walkthrough we show you how to create solid-looking metallic text from a two-dimensional text layer. The depth and bevel settings we use to create our 3D logo aren't absolutes – feel free to experiment with different values when you edit the attributes of the various layer styles.

Colour picking

When you choose a colour for your logo in step 4 you activate the Color Picker. If you're creating a logo to be viewed online you can leave it to ImageReady to optimise the logo for the web, and this might mean that the colour you choose will be slightly altered to a more web-friendly colour. To avoid changes in colour at the optimisation stage click the Only Web Colors box in the Color Picker.

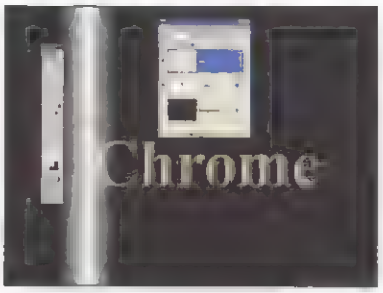
Adding the glint

Use ImageReady's animation tools to create a moving band of light to highlight your logo

Save it

When you've created the components for your animation in Photoshop, save the file before diving into ImageReady; this will give you a back-up file that you can access if your initial animations don't turn out the way you desire.

1 Create a new layer called 'Light Bar', and make sure it's above the other layers in the stack. Set the foreground colour to white, then select the Gradient Tool [G]. Open the Gradient picker from the options bar, and choose the Foreground to Transparent Gradient preset. Click OK.



5 Click on Reflected Gradient in the options bar, and make sure that the Transparency box is ticked. Target the Light Bar layer in the Layers palette. Place the cursor at the beginning of your logo, and click and drag to the right to draw a vertical soft-edged white bar.

Modifying movement

Our shiny logo features light moving from left to right. The animation can then be set to loop so that the light source continues to pass across the logo in the same direction. Alternatively, use the Tween options to tween between the last frame and the first – this will make the light sweep back and fourth across the logo.

6 You're now ready to animate your logo to make the light source glint off the text. Click on the Edit in ImageReady button (or press Shift+[Ctrl]/[Command]+[M]). Go to the Animation palette, and click the Duplicate current frame button. Select Frame 2, and use the Move Tool to place the vertical bar of light at the right of the logo.

7 Click the Tween button, and select Tween With: Previous Frame. Choose 12 frames, and make sure the All Layers option is selected. Click OK to add frames that make the white bar move from the left to the right. To make the white bar illuminate only the highlights of the logo target Frame 1, go to the Layers palette, and set the Light Bar layer's blending mode to Overlay.

Animating layer styles

Create an alternative metallic logo effect by animating the reflections inside the lettering

So far in this chapter you've created movement by tweening between two different frames; the only difference between the start and end frames of your glinting metallic logo animation is the position of the vertical white bar. The additional in-between frames created using the tweening technique make the white bar move from left to right, causing the logo's highlights to appear to flare up as the bar passes over them.

As well as using tweening to make a layer's components move around the screen, you can also tween layer styles to animate them, and by animating layer styles you can create a more convincing and effective animation. In the box below we'll explain how you can make the metallic reflections in your logo move as if they're being affected by a changing light source – you'll do this by animating the Satin effect's Angle attribute. Once you've mastered the process of animating layer styles you'll be able to create all sorts of amazing effects that you can use to enhance your animations in a variety of ways.

Satin.gif, Combined.gif

Check out Satin.gif, our alternative metallic logo. The animated reflections in this version are created by tweening between two frames that have different layer style settings. As you'll see from Combined.gif, you can use tweening to add a moving glint of light to a logo's letters and animate layer style reflections at the same time, enabling you to create a much more sophisticated animation.

Tweening a layer style

Animate the logo's Satin layer style to create a moving reflection

To animate the Satin layer style you'll need to restore your logo to a single frame in the Animation palette. Hold down [Shift], and select the frames you created in the previous walkthrough, and delete them all by clicking the 'Deletes selected frames' button (the trashcan icon); this will leave you with Frame 1. Click the 'Duplicates current frame' button to create a new Frame 2. Double-click on the Satin effect in the Layers palette. Change the Angle to -122 degrees. Now use the tween technique to create 12 new frames between the Frame 1 and Frame 2. Play the sequence, and you'll see that the reflections within the logo's shiny surface move.

Create shimmering reflections in the surface of your logo by tweening the Angle attribute of the Satin layer style

Creating text in ImageReady

Use ImageReady's text creation, editing and animation tools to streamline your workflow

Do it yourself

To create unique logo designs you can fill your text with your own patterns and textures using the Pattern Overlay option within the Layer Style dialog box. Instead of selecting a preset pattern from the pop-up menu, click the pattern preview to open the Pattern picker, and click on the arrow to open the menu. You can now navigate to a Photoshop file containing a pattern or texture that you've created.

In our previous logo project we created reflective metallic text in Photoshop, before exporting it to ImageReady so we could animate the glinting effect. An alternative approach is to create and edit the text entirely within ImageReady, as well as selecting and editing the text's layer styles. Creating and animating text 'under one roof' saves you time, as you don't need to jump back and forth between ImageReady and Photoshop.

To create text in ImageReady you can use the Type Tool [T] in exactly the same way as you'd use it in Photoshop, and you can make sure that your logo is in the exact centre of the screen by clicking on the 'Align layer vertical centers' and 'Align layer horizontal centers' buttons in the options bar. On the following pages we'll demonstrate how you can get text to zoom in and out, to create a traditional flying logo effect. Make sure the text you create in ImageReady is as large as the logo needs to be once it has fully zoomed in: this enables you to produce a high-quality graphic.

Perfect patterns

Click here to reveal a huge list of pre-designed patterns that can be used to customise your logo.

You can add layers styles to your ImageReady logo text by clicking on the 'Add a layer Style' icon in the Layers palette.

Use layer styles to give your text a Bevel and Emboss effect. This will help give the logo more depth and solidity.

ImageReady has a much greater selection of patterns than Photoshop. We choose a psychedelic style pattern called '60's flowers'.

Select the Pattern Overlay effect in the Layer Style dialog box to add a variety of patterns to your logo.

You can fine-tune the pattern effect by scaling it up or down using this slider.

Save time with actions

Save time making your logo zoom in by using one of ImageReady's pre-designed actions

When we were animating the bouncing ball in the previous chapter, and making light glint off a logo in this chapter, we utilised ImageReady's powerful tweening function. This fantastic feature enables you to make an object move from point A to point B by automatically generating the intermediate frames required to show the object moving across the screen. Tweening saves you loads of time and effort, as you don't need to create the intermediate frames of the animation by hand – you can tween an object's position to create moving graphics in seconds. However, tweening has its limitations; you can't tween between a small font and a large font to make your text zoom, for example. Creating a zooming logo can be a time-consuming business, as you have to create a duplicate text layer for each new frame in the sequence, and scale each layer down in increments. This is a tedious job, but fortunately ImageReady has a special action that's designed to get your text zooming with a single click.

ZoomIn.gif

After designing our logo at full size we were able to get it to zoom in seconds using ImageReady's Zoom In action – check out the ZoomIn.gif on the disc to see how smooth and effective the zoom is.

ImageReady's actions in action

Go to Window > Actions to open the Actions palette, or click the Actions palette's tab in the palette dock.

By default the Zoom In action will place 13 new frames between the start and end frame. Double-click here to edit the Action.

Select the Zoom In Action, and click Play. ImageReady will work through all the steps in the action to generate the necessary frames and layers.

You can increase the amount of frames by changing this attribute before running the action on your original frame.

The Zoom In action generates duplicate layers, and automatically shows and hides the appropriate layers as the animation plays.

When you run the Action ImageReady automatically generates new frames, and scales the logo in each frame incrementally.

Action stations

Make the most of the ImageReady's Actions palette to create animated logos quickly

Inaction
To get an action to work you must make sure that the text layer you want to animate is targeted in the Layers palette. If you don't have any text selected you'll see a warning dialog telling you that ImageReady can't perform the action correctly.

The ImageReady Actions palette is a fantastic resource, and you can use it to get your logos moving in a matter of moments. It contains a large collection of pre-designed actions that enable you to create all sorts of traditional flying logos, so that you can quickly generate animated content for your sites (see the box below for a full list of the available animation-related actions in ImageReady).

The actions themselves are also a good source of information on the different ways in which you can animate text using ImageReady's tools. Click on the triangle icon next to an action to see a list of all the steps are involved in that particular action. To analyse a specific step's attributes, simply double-click on it; this will open a dialog box enabling you to see exactly what the step involves. After you've analysed a few actions you'll have a clearer understanding of what's involved in animating your text, and you'll even be able to create your own time-saving actions from scratch, as we'll demonstrate on the opposite page.

Flying graphics
In this chapter we apply actions to text layers to create a variety of flying logos. You can also apply the actions to other types of layer content to make all sorts of graphics fly around the screen.

ImageReady's animated actions

Spin – This action creates all the frames you need to make text rotate through 360 degrees. The action is designed to create a looping GIF, so that the text will rotate forever.

Spinning Zoom In – This action combines the Spin and Zoom In actions. It scales the text up from 10% to 100%, and rotates each frame through 30 degrees to make your logo spin as it zooms in. Change the looping to Once before creating an animated GIF.

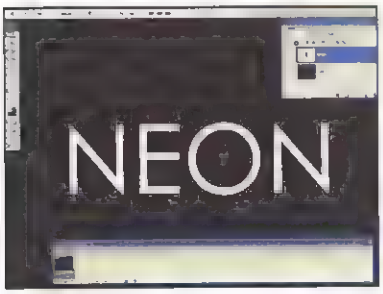
Spinning Zoom Out – This does exactly the opposite of the previous action, making your full-size text shrink as it spins into the distance.

Zoom In – This action does what it says on the tin! Check out the previous page for a closer look at how it does its job.

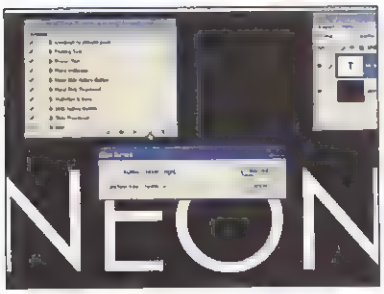
Zoom Out Apply this action to a text layer, and then watch it disappear off into the distance.

Create your own action

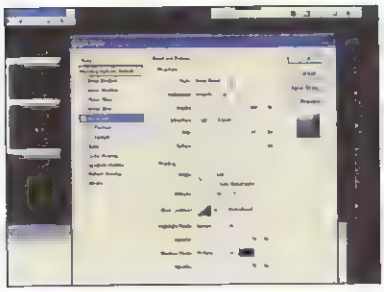
Create a flickering neon sign effect, and save it as a re-usable action to apply to other text



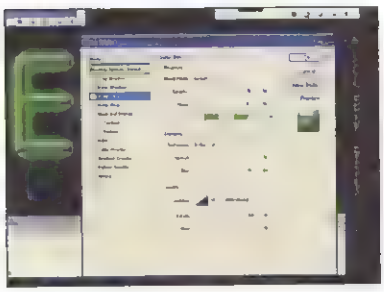
1 Type the text you want to use for the neon sign effect, and choose a font (we went for Century Gothic at 300 pixels). Over the next few steps you're going create an action that uses layer styles to create the glowing 3D neon effect; the action will also record all the steps required to make the logo flicker and glow. You'll then be able to apply the effect to any text with one click.



2 Click on the 'Create new action' button at the foot of the Actions palette, and in the New Action dialog box label the action Neon Logo; you can assign a function key to the Action if you want to activate it using a keyboard shortcut. Click on the Record button, and the Record icon in the Actions palette will turn red.



3 Target the text layer in the Layers palette. Click the 'Add a layer style' button, and choose Blending Options. The Layer Style dialog box will open. Click on the words Bevel and Emboss, so you can edit their attributes. Set Style to Inner Bevel, Technique to Smooth and Depth to 587%. Change the Size slider to 14 pixels to give the text a rounder 3D bevel. Set Soften to 2.



4 Click on the Color Overlay layer style. Click on the Set Color box to open the Color Picker, and choose a colour for the neon sign – we went for a striking green. To finish off the effect click on Outer Glow. Select a similar green colour for the glow. In the Elements section change Size to 5%, and Spread to 33; this will add a suitable greenish glow to your neon sign. Click OK.

Finding fonts

When choosing a font for your logo you can quickly see how your text looks in the various fonts you have available. Select the text in the main work area, then click in the font menu in the options bar. Use the up and down arrow keys to scroll through the font list, and see the text change accordingly.

Recording

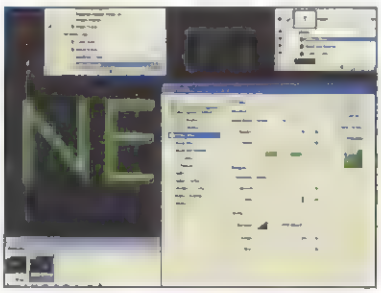
When you're creating an action, take your time and relax. The record icon may be red, but it's not recording in 'real' time. ImageReady will only record the final changes you make to any attributes in the Layer Style dialog box, so feel free to experiment with the effects until you're happy with the look of the logo.

Create your own action continued

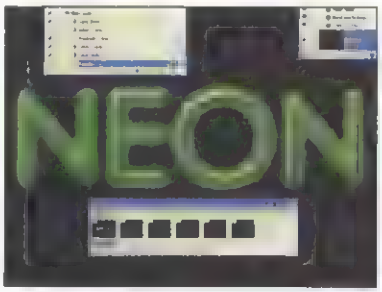
Add ImageReady's Tween command to your action, so that it will instantly animate the text

Deleting steps

As you do something new (such as select a frame in the Animation palette), you'll notice that the step appears in the Actions palette. If you make a mistake you can delete unwanted action steps by selecting them, and clicking on the Trashcan icon at the foot of the palette.



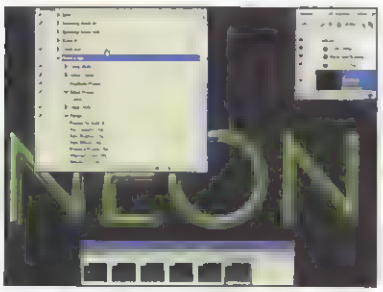
1 Having recorded all the steps required to create a neon text effect, you now need to add animation to the action. Go to the Animation palette. Click the 'Duplicates current frame' icon to create Frame 2. Select Frame 2. In the Layers palette double-click the Outer Glow effect to open the Layer Style dialog. Reduce the Elements Size attribute to 8 pixels to shrink the glow. Click OK.



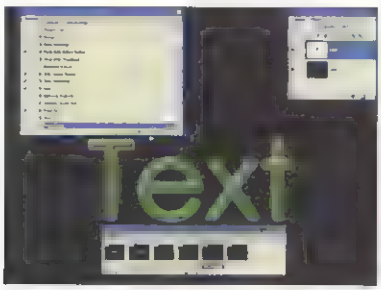
2 Frame 1 now shows the sign glowing brightly, and Frame 2 has a reduced glow. With Frame 2 selected click the Tween button to open the Tween dialog and select Tween With: Previous Frame. To create a rapidly pulsing glow type 4 in the Frames to Add field. Click OK. This will create an animation with 6 frames in total. Press the Stop recording icon in the Actions palette.

Neon.gif

Check out our finished neon sign logo by opening this file from the cover disc. Once you've created an action you can produce animated GIFs in seconds using any text, which is a fantastic time saver.



3 Play back the animation, and watch the logo pulse and glow. Notice that the Actions palette contains your Neon Logo action. You can open any of the steps to see their elements by clicking on the arrow icon. For example, you can see what layer style settings the action uses to create the glow effect, or see how many tweened frames the action will create.

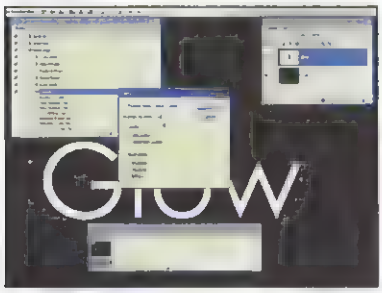


4 To test your modified action use the Horizontal Type Tool [T] to create some new text. Target the text layer in the Layers palette, then go to the Actions palette. Click the Neon Logo action and press the Play button. ImageReady will use the steps in your action to apply the layer style effects and the tweening commands to your text, turning it into a flickering neon logo.

Modifying existing actions

Tweak your action's attributes, before applying it to new text to modify the finished animation

1 **Once you've created an action it will apply the same layer style effects, and add the same number of frames, to any text it's applied to. If you decide that there aren't enough frames in the final animation you don't need to create a new action from scratch, as you can edit individual steps in an existing action to change it.**



2 **Let's say you wanted a more gently pulsing neon sign. To get your existing action to do the job go to the Actions palette. Click the arrow icon to see the list of steps that make up the action. Double-click on Tween to open the Tween dialog box, type in a larger number of Frames to Add, and click OK. The action will now add more frames to any text you apply it to.**

Neon2.gif

On this page we modified our Neon Logo action to add 12 frames to the animated logo, instead of 4. Check out the more gently pulsing glow that the extra frames create by viewing the new logo on the cover disc.

Layer styles

As you've seen throughout this chapter, tweening layer style effects is a powerful way of adding movement to a logo without having to make the text itself move around the screen. Feel free to experiment with tweening, and with other layer styles, to create your own unique animations.

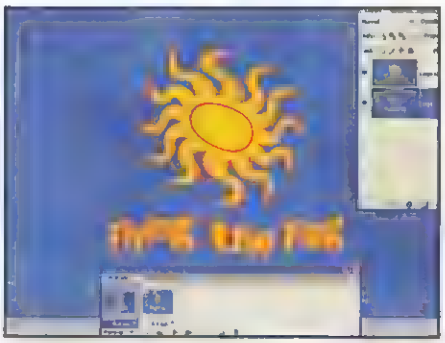
Animating for TV screens

Photoshop CS2 enables you to create animated title sequences and logos for videos and DVDs

Constraints

When you're designing for TV you have to take into account the constraints that the TV format places on your animation. TV screens display your work at a much lower resolution than a PC monitor, and this can lead to unforeseen problems. Check out the opposite page for more information.

Traditionally, ImageReady has always been used to create web content within Photoshop. However, Photoshop CS2 features direct access to the Animation palette from within the Photoshop interface, so users can create animations without switching to ImageReady. Unlike ImageReady CS2, Photoshop CS2 allows you to export your animations and logos to video, making it the perfect application for creating cool captions, programme credits and logos for TV. To help you tailor your designs for TV, Photoshop includes a range of different-sized TV screen presets for you to choose from – see the box below for more details.

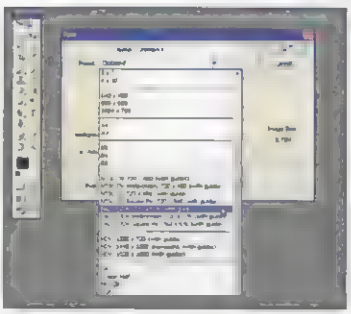


Photoshop CS2 boasts its own version of the Animation palette, enabling you to create animations for other media as well as the web

TV PRESETS

Choose the correct-sized preset Photoshop document

When you're using Photoshop CS2 to design an animated logo or title sequence for TV you have a variety of presets to choose from. To set up your Photoshop document at the appropriate size and resolution go to File > New. Click on the Preset menu, and look at the different options available to you. If you're based in the UK or Europe choose a PAL option; if you're designing for American TV then you'll need to select NTSC. Photoshop CS2 even has larger presets for the new HD (High Definition) format. All of the presets have a version with and without guides – the blue guides can be hidden by pressing Control + [;].

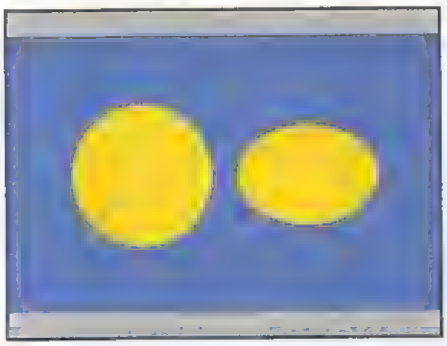


Photoshop offers a variety of presets to help you design animations for formats such as Pal TV, and even HD

TV design constraints

Before you create animation for TV, you need to know about (and avoid) potential problems

Compared to a PC monitor, a TV screen has a much lower resolution. This means some of the picture information that's visible when you design a logo or graphic can disappear when viewed on a TV screen; fonts that are perfectly legible when you're working a few inches from your monitor can be illegible when viewed on TV across a living room. There's even a difference between the shape of computer screen pixels and a TV screen's pixels. Photoshop's pixels are square, while a TV's pixels are rectangular; this can cause perfect circles created in Photoshop to become squashed horizontally when viewed on video.



Due to the difference between TV and computer pixels, perfect circles can become squashed ellipses, ruining your logos

Juddering

Avoid using thin lines of less than 3 pixels in width in your logo designs, as these will judder when your animation is viewed on a TV; this is due to the interlaced scan lines that make up the video frames playing on a TV screen.

Designing effective TV animations

Step back – While designing an animation to be viewed on TV, take time to occasionally step back from your monitor, to see if you can still read text and captions from a distance.

Fiddly fonts – Don't use fiddly serif fonts that have delicate tapering edges. These may be visible on a high-resolution PC monitor, but the finer details will vanish when viewed on a lower-resolution TV screen, making it hard for viewers to read your text.

Square pixels – To avoid circles in your animations becoming squashed due to the difference between computer screen and TV screen pixels choose the 'Pal D1/DV, Widescreen (with guides)' preset. The pixel aspect ratio changes from Square (PC-shaped pixels) to 1.422 (TV-shaped pixels). Photoshop scales the document's square pixels to match the non-square pixels of a TV screen. See the 'Aspect ratio' sidebar for further information.

Aspect ratio

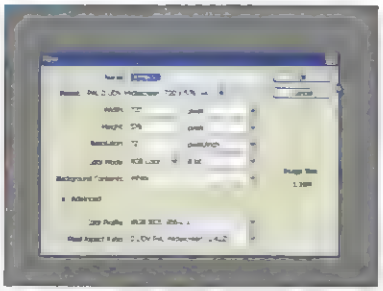
TV and PC screen pixels have a different aspect ratio, which simply means they have different shapes. PC pixels are perfectly square, while widescreen anamorphic TV pixels have an aspect ratio of 2:1, meaning that each pixel is twice as wide as it is high.

Flying the flag

Use Photoshop to create a rippling flag animation destined for the TV screen

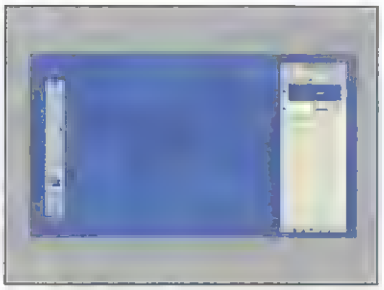
Good guides
The blue guidelines around the edge of the Photoshop document are very useful, as they show you the safe area in which you can create your design. All TV screens are different, and it's quite easy for the novice to place part of his logo near the edge of the screen, where it may be illegible.

Flag.mov
To see a video tutorial for this creative walkthrough, check out the movie on the cover disc. It will take you step by step through the tutorial, and explain more about using Photoshop to design animations for TV.

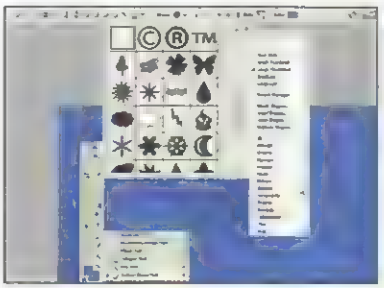


Go to File > New. To create the animation for a standard widescreen TV go to the Preset menu and scroll down to select 'PAL D1/DV Widescreen, 720 x 576 (with guides)'. This will make your animation fit on a widescreen TV without becoming distorted (see the 'Aspect ratio' sidebar on previous page). Click OK.

A warning dialog will appear telling you that Photoshop is using pixel aspect ratio correction; this enables you to see how the logo you create will look on a TV screen. Click OK. On the next page you'll turn off pixel aspect ratio correction to see a higher quality version of your logo, then turn the correction back on to see how the design will look on a lower-resolution widescreen TV.



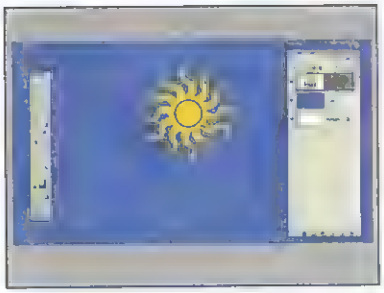
Create a new layer, click on the foreground and background colour swatches in the toolbox, and choose two different shades of blue to create the flag's background texture. Go to Filter > Render > Clouds to fill the new layer with a texture.



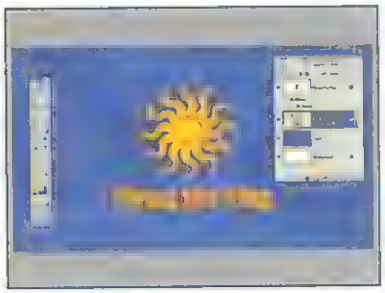
To create a logo to adorn your flag select the Custom Shape Tool [U] from the toolbox. This tool draws filled vector shapes, and Photoshop has a huge library of shapes for you to browse through. Pop up to the options bar, and open the Custom Shape picker. Click on the arrow button to open the menu, and select Objects to get a new selection of shapes.

Create your components

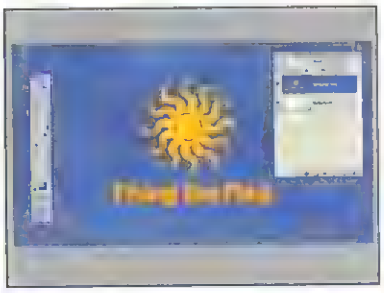
Use the Custom Shape Tool, text and layer styles to create a design for your rippling flag



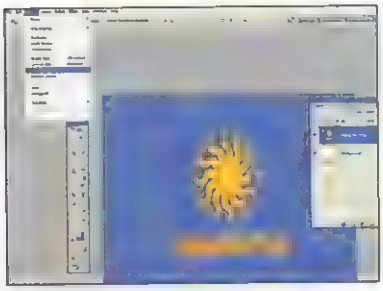
From the Custom Shape picker choose a symbol to adorn your flag – we're using Sun 1. Click on the foreground colour swatch in the toolbox to choose a colour for your shape. To draw a circular design such as our sun logo, hold down the [Shift] key as you draw to constrain the proportions. The shape will appear in a new layer.



Select the Horizontal Type Tool [T], and type in the text for your logo – to unify the design we stuck to the same colour that we used for the symbol. To make the logo and symbol stand out a little more click on the 'Add a layer style' button at the foot of the Layers palette and choose Stroke. Select a 3-pixel wide complementary stroke colour for the symbol and text.



Save the project as a layered Photoshop document, in case you need to alter the logo or text. Then hold down [Shift] and select the symbol, text and blue flag texture layers in the Layers palette. Press [Ctrl]/[Command]+[E] to merge the layers together, so that all the elements will ripple together like a real flag when we distort our design on the next page.



The lines in the design look a little jagged – this is because we're viewing the image at TV screen resolution. To see the design at a higher quality Photoshop setting go to Image > Pixel Aspect Ratio > Square. The whole image will compress inwards, but the edges of the text will look smoother. You can carry on designing in this pixel aspect ratio, or change back to PAL Widescreen.

Labels

Each shape in the Custom Shape picker has a unique name. To discover what a particular shape is called hover your cursor over it – a tooltip-style yellow label will appear, showing the name of the selected shape.

Video or web

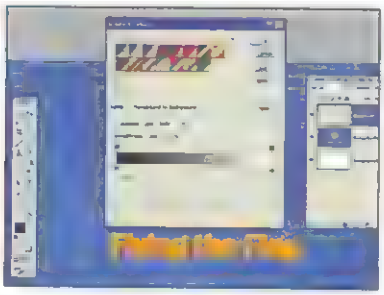
Although you're designing an animation to be viewed on a TV screen, you can adapt the basic design and animation steps featured in this walkthrough to create an animated flag GIF in ImageReady. You can also adapt the techniques described in this guide's ImageReady walkthroughs to create animations for TV in Photoshop.

Displacement maps

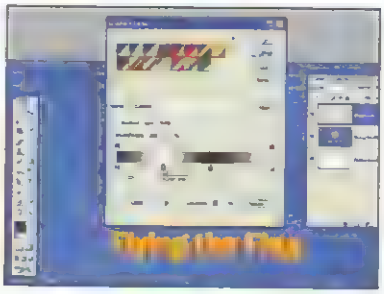
Edit the Gradient Tool to create displacement maps with which to animate your flag logo

PSD files

On the next page you're going to use the greyscale displacement maps that you've created to make the logo billow like a flag in the wind. It's crucial that you save the displacement maps as Photoshop documents (.PSD files), otherwise the effect won't work.



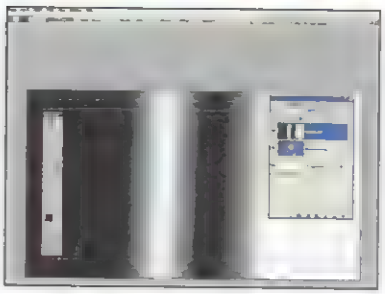
Press [D] to return the foreground and background colours to their default black and white. Select the Gradient Tool [G]. Open the Gradient Editor, and select the Foreground to Background gradient. This gradient has two 'colour stops' below the preview bar, one at either end, which create a gradient that goes from black to white.



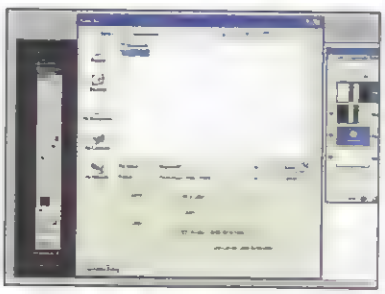
Click below the gradient preview bar to add two new colour stops. Place one at a location of 30% and the second one at 60%. By default the two new stops will be black. Click on the stop at the 30% location, and use the Color Picker to change the colour to white. Click OK to apply the changes.

Save it

Once you've customised a gradient by editing its colour stops you can save it to use again, and even share it with other Photoshop users. In the Gradient Editor click on Save, and give your edited gradient a name (Flag.GRD for example). You can use the Load button to access saved gradients.



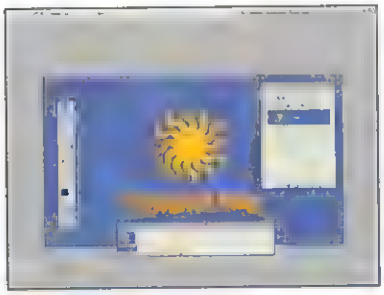
Select the Linear Gradient option in the options bar. Create a new layer called Displacement 01, and draw a linear gradient from left to right across the new layer. Make the horizontal line that you draw with the Gradient Tool the same width as the text in your logo.



Duplicate the Displacement01 layer and call it Displace02. Press [Ctrl]/[Command]+[I] to invert the gradient. Go to File > Save As, and call it Displacement02.psd. In your main project hide the Displace02 layer, so you can only see the Displace01 layer. Save the file again as Displacement01.psd. You now have two displacement maps that you can use to distort the logo.

Animating your flag

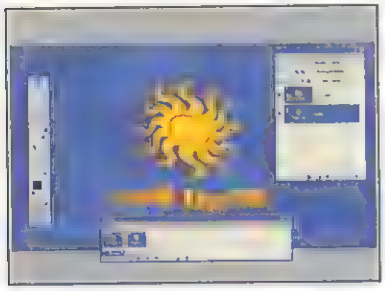
Use the displacement maps to distort the logo, and create a new frame in the Animation palette



1 **Hide the two gradient layers, as you no longer need them. Go to Layer > Flatten Layers; when asked if you want to discard hidden layers click OK. Your logo's elements are now flattened into one layer. Double-click the layer thumbnail to unlock it, and label it Logo. Open the Animation palette in Photoshop, and duplicate the Logo layer in the Layers palette.**

2 **Select the Logo copy layer. Go to Filter > Distort > Displace. In the Displace dialog use the default settings for Horizontal and Vertical Scale, and set Undefined Areas to Repeat Edge Pixels. Click OK. Navigate to the directory containing your gradient displacement maps. Select Displace01.psd, and click Open; this will cause your Logo copy layer to distort like a billowing flag.**

3 **The first frame in the Animation palette will change to show the distorted Logo copy layer. Click the 'Duplicates current frame' button. Hide the Logo copy layer in the Layers palette, and target the original undistorted Logo layer. Go to Filter > Distort > Displace, and select Displace02.psd – you now have two frames showing different distorted versions of the logo.**



4 **Click the Play button in the Animation palette. Set the frames to loop Forever. The two distorted frames will cycle, causing the logo to distort like a flag billowing in the wind. The animation will be too fast, so set the duration of each frame to 0.1 sec to slow the movement down. Et voila! A billowing flag that you can export to video (or re-size, and turn into an animated GIF).**

Export to video

You can export your finished animation directly to a video recorder (or camcorder) attached to your PC. Go to File > Export > Send Video Preview to Device. Photoshop will play the looping flag animation: simply hit Record on your camcorder to capture the final animation.

Smoother movement

You now have all the skills you need to edit gradients and distort your logos. To create a smoother animation you can tweak the gradient's colour stops to create additional displacement maps; you can then use these to distort new copies of the original logo layer to generate more frames for your animation. The more frames you have, the smoother the final movement will be.

Chapter 4

ANIMATING EVERYDAY TECHNOLOGY

In this chapter...

- [illegible]
- [illegible] in accurate increments
- [illegible] radar beam effect
- Use tweening to animate a sniper's gun sight

Develop your Photoshop and ImageReady skills further to create a variety of technologically inspired animations for your home movies, your website, and even for mobile phones

Our lives are increasingly dominated by, and dependant on, technology, and as a result we spend a great deal of time looking at content and information on screens. Many of us spend hours in front of a computer screen at work, and carry portable media players, PDAs and mobile phones around with us all day. When we get home we're back on the computer playing games or chatting via a webcam, or sitting in front of our widescreen TV watching programmes recorded on our DVD or video recorder. We're increasingly viewing the world through square eyes, but, thanks to the power of Photoshop and ImageReady, we're no longer limited to viewing screen-based content that has been created by someone else: we can create our own imagery, and share it with others.

Sharing content

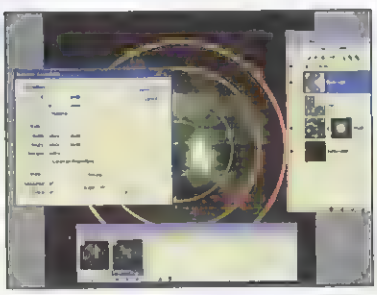
As you've discovered in the previous chapters, you can easily create your own animations to liven up your websites. Animations can also be also be added to your home videos and viewed on TV screens, thanks to Photoshop CS2's incorporation of the Animation palette directly into its interface (see pages 48 to 53). You can even send your animated GIFs as media messages to your

Page 56 *Create the components for an animated podcast-style GIF*

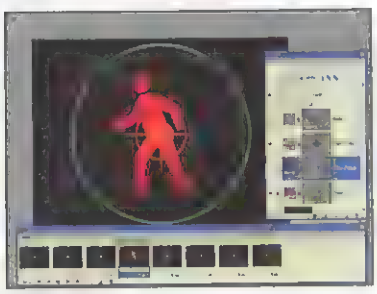
Page 59 *Animate a layer's opacity values to create radiating beams*

Page 60 *Use layer visibility to make a radar beam sweep around a screen*

Page 63 *Create a texture for your radar screen using Photoshop filters*



Page 64 *Use ImageReady's Numeric dialog box to animate the radar beam*



Page 70 *Use a variety of techniques to alter the components of a GIF*

friends' mobile phones, so that they too can enjoy the results of your new-found animation skills.

Digital identity

Thanks to the proliferation of web forums and chat rooms, many of us have a whole set of 'virtual' acquaintances with whom we share thoughts and opinions, despite the fact that we've never met them in the flesh. It's easy to feel anonymous on a forum or in a chat room, but ImageReady and Photoshop can help us reinforce our online identity by enabling us to create unique animated icons that we can attach to our name. An animated digital 'label' helps other forum users spot posts that we've written, and helps them locate us among the hundreds of other people online. Today's animated icons (or avatars) work like medieval shields: they have a unique design to give us a sense of identity, and they can also say something about our personality.

In this chapter we'll discover some new Photoshop and ImageReady techniques that can help us to create animations inspired by technology. You'll then be able to adapt the skills you've picked up to create your own animated icons, enabling you to unleash your creativity, and enhance your on-screen presence.

Podcast logos

Use Photoshop and ImageReady to create a podcasting logo with animated radio waves

Podcast.gif
Check out our animated podcast logo on your cover disc. Seeing the blue radio wave components being emitted as concentric rings of colour and fading out will help you get your head round the steps described in the following walkthrough. Simply drag the GIF into an open browser window to view it as an animation.

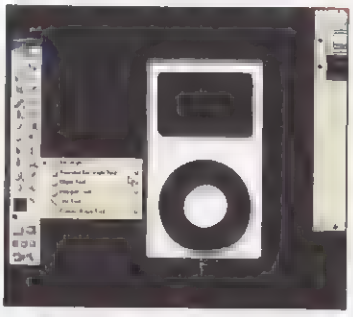
Back in the 1980s affordable desktop publishing packages like PageMaker revolutionised the way people communicated; anyone with a PC and a printer could create their own newspaper or periodical, and distribute it. A similar revolution is underway today. Thanks to technological advances such as Broadband, and the ubiquity of MP3 players, podcasting is becoming a growing phenomenon, and anyone with a microphone and a PC can broadcast their thoughts on any subject they choose. If you want to join in, you can draw attention to your own podcast by creating a suitably-themed animated GIF.

Draw attention to your site's podcast links by creating an animated iPod-style logo that emits circular radio waves

Symbols and shapes

Create an icon using Photoshop's vector-based shape tools

On page 50 we showed you how to use Photoshop's library of custom shapes to create a symbol for a billowing flag logo. Although there are many pre-designed shapes available, you may need to design your own symbols from scratch to create distinctive logos. Before we use ImageReady to add the animated radio waves to our podcasting logo we'll show you how to create a stylised iPod-style icon, to make it clear that the logo links to a podcast. You'll discover how to use Photoshop's vector shape tools to create the icon, and how to modify the Rectangle and Ellipse shapes to cut holes in it.



Modify Photoshop's shape tools to create an stylised icon that forms the focal point of your podcasting logo

Create the icon

Modify vector-based shapes to create the central iPod-style icon for your animation

1 **Create a new Photoshop document with a black background. Create a new layer called iPod, and set the foreground colour to white in the toolbox. Select the Rounded Rectangle Tool from the toolbox; to cycle through all the shape tools until you activate the Rounded Rectangle Tool press [Shift]+[U]. Draw an iPod-shaped rectangle on the iPod layer.**

2 **To change the way the tool behaves click on the 'Subtract from shape area (-)' button – the middle of the five buttons in the center of the options bar. The cursor will change to a crosshairs with a minus sign by it, indicating that the tool is ready to cut holes in your existing rectangular shape. Click and drag the cursor over the shape to cut out a screen display, as shown.**

3 **Select the Ellipse Tool from the shape tools compartment, and use it to cut a circular hole in the body of the iPod shape to create a stylised control dial; to cut a perfect circle hold down the [Shift] key as you draw. To add a white hub to the dial click the 'Add to shape area (+)' button in the options bar, and draw a smaller filled vector circle.**

4 **To give your icon more impact use layer styles to add a 3D effect to the design. Click on the 'Add a layer style' button at the foot of the Layers palette, and select the Inner Shadow option. Increase the 3D effect by entering a value of 8 pixels in the Distance field. Click OK to complete your stylised iPod icon.**

www.podcast.net

To find out more about podcasting check out this comprehensive site – it may inspire you to create your own podcasts covering your favourite subjects. You'll even find podcasts on the subject of Photoshop – simply type Photoshop into the site's search engine.

Simple shapes

ImageReady does have vector-based shape tools like the Rounded Rectangle tool, so you might consider using that package to draw the main body of the iPod shape. However, ImageReady lacks the additional options that enable you to cut holes in vector-based shapes; this is why we're using Photoshop's more advanced shape tools to draw our icon.

Animating radio waves

Take your Photoshop-designed components into ImageReady to add animated radio waves

Circle size

In Step 6 we create the radio wave at its largest size. This allows us to scale down the wave in ImageReady to create smaller versions of the wave radiating from the iPod icon. By scaling down a large, high-quality graphic we lose no image quality; if we'd created a small radio wave, and then scaled it up, we'd have reduced the quality of the graphic.

File size

To keep the file size of the finished animation to a minimum we've created a very simple vector-based design for our podcast logo. You could add extra detail to your version by adding a Satin layer style to the radio waves – this will give them extra weight and depth, although it will increase the size of the finished GIF.

5 **Go to Edit > Transform > Scale, and reduce the size of your iPod icon. Use the Move Tool [M] to place it in the centre of the image. Before switching to ImageReady, create a radio wave shape in Photoshop. Select the Elliptical Marquee Tool [M], hold down [Shift] and draw a circle. To make the circle grow outwards from the centre of the icon's dial hold down [Alt] as you draw.**

6 **Create a new layer called Circle. Set the foreground colour to blue, and go to Edit > Stroke. In the Stroke dialog box set the Width to 20 pixels (or choose a different value if the stroke looks too thick or thin). Set the stroke's Location option to Inside. Click OK to turn the circular marquee into a solid blue line.**

7 **You're now ready to animate the components. Click on the Edit in ImageReady icon at the bottom of the Photoshop toolbox. In ImageReady, open the Animation palette and click on the 'Duplicates current frame' button. Duplicate the Circle layer in the layers palette by dragging it on to the 'Create a new layer' icon to create Circle copy.**

8 **Turn off the original Circle layer in the Layers palette to make it invisible in Frame 02. Target the Circle copy layer, and go to File > Transform > Numeric; this dialog enables you to scale down the Circle copy layer in increments. Choose a Scale Percentage of 80%, and click OK. The Circle copy layer will scale down by 80%, making it smaller in Frame 2 than it is in Frame 1.**

Animating radio waves continued

Add more radio waves, scale them, and make them appear to dissipate into thin air

9 Click the 'Duplicates current frame' button in the Animation palette to create Frame 3. Go to the Layers palette, and duplicate the Circle copy layer. Make the Circle copy layer invisible, target the Circle copy 2 layer, and go to Edit > Transform > Numeric. Scale down the Circle copy 2 layer: this will be the only circle layer that's visible at Frame 3 of the animation.

10 Repeat the above technique to create a total of 8 frames and 8 circle layers. Play the animation. The blue circle will get smaller in each frame, radiating inwards towards the iPod icon. To make the circles radiate outwards, click on the arrow button in the Animation palette to access the palette menu, and choose Reverse Frames.

11 Play the animation. The blue circles will now radiate outwards from the iPod icon's control dial, symbolising the broadcasting of a podcast. To make the animation more sophisticated, and work more effectively as an infinite loop, you can edit the layers' Opacity settings to cause the radio waves fade out as they get larger.

12 Select Frame 8 in the Animation palette. The original Circle layer will be the only layer visible in the Layers palette. Target the Circle layer in the Layers palette, and reduce its Opacity setting to 20%. Target Frame 7 and the Circle copy layer, and set the Circle copy layer's Opacity to 40%. Now the radio waves will fade away as they radiate outwards.

Opacity

When you adjust a layer's opacity in Step 12 you can do so in three ways. You can click on the arrow next to the Opacity field in the Layers palette and use the slider, or type a numerical value into the field. To change a layer's opacity using a keyboard shortcut, target the layer and press a number key; the [2] key sets a layer's opacity to 20%, and [4] sets the opacity to 40% for example.

The Numeric dialog

In this walkthrough we used the Numeric dialog box to manually scale our circle layer in specific increments; this is the same technique employed by the pre-designed Zoom In and Zoom Out actions in ImageReady's Actions palette (see pages 43-47). It's good experience to use the Numeric transform option, as it's the key to all sorts of different types of animation.

Transferable skills

Adapt the skills you learn from this guide to create unique animations for your own projects

Radar.gif
Check out the sweeping radar animation on the cover disc. Being able to make a layer's content rotate smoothly is a very handy skill to have, and you'll be able to apply the technique to all sorts of animated content.

As you work through this guide you'll create a variety of different animations. These creative projects are designed to help you develop your Photoshop skills, so that you can create and modify content for your own animations. The projects are also designed to get you using a variety of different ImageReady techniques. So far you've used tweening to create multiple frames of animation from two key frames (see page 22), used Actions to help you animate text quickly (see pages 43–47), and, on the previous page, learned how to move a frame's components in increments to create a smoothly scaling object.

You can adapt all these techniques to create unique content for your own projects. In the next creative walkthrough we'll show you how to create a sweeping radar beam by animating a layer's rotation incrementally using ImageReady's Numeric dialog box. You can apply the skills you'll learn to make other objects rotate, such as an aeroplane propeller, or the wheels on a car.

Animating rotation

Create elements such as a radar beam using the Numeric dialog

The Numeric dialog box is a vital tool for enabling us to create animated frames that can't be generated using the tweening technique. In the previous walkthrough you saw how to use the Numeric box's Scale attribute to make a circle grow outwards from a central point in precise increments. This ability to transform a layer in numerical increments means that the changes we make to a layer's components will create smooth and consistent movement, rather than being jerky and erratic. In the following walkthrough you'll discover how to use the Numeric dialog's Rotate attribute to create a radar screen.

A rotating layer causes the radar's beam to sweep around in circles, illuminating small aircraft symbols

Get smart

Give yourself more control over your designs by using Photoshop CS2's smart objects feature

When you're designing the components of your animated GIFs, it's worth learning how to use the smart objects feature that was introduced in Photoshop CS2. This is especially true if you need to scale particular layers. When you're using the Transform commands to scale a layer's content down you press the [Return] key to apply the transformation; Photoshop then 'forgets' that the layer used to be bigger, and treats it as a small bitmap layer. If you decide to scale this layer up again, the quality of the layer's content will degrade, because you can't scale bitmaps up without losing some image data.

Photoshop CS2's smart object feature enables bitmap imagery to be handled in the same way as a vector object, meaning that you can scale it down, apply a transformation and then scale it up again later with no reduction in image quality. This is because the original properties of a smart object are saved, so you can rescale it at any time. Check out the box below to see how to turn a component into a smart object.

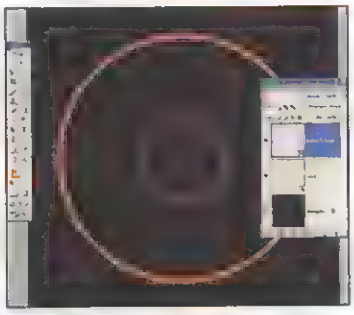
Photoshop only

Smart objects give you more creative control over your designs in Photoshop. However, ImageReady doesn't recognise smart objects, so you must commit yourself to a final design in Photoshop before jumping to ImageReady to animate your components.

Creating smart objects

Turning an ordinary bitmap layer into a smart object

In the following walkthrough we'll create the background of our radar screen by scaling down a stroked circle. If we scaled down an ordinary bitmap layer, then decided that we wanted to scale it up again later, it would deteriorate in quality. To turn a bitmap into a smart object target its layer, then go to Layer > Smart Object > Group into New Smart Object. The layer's thumbnail in the Layers palette will change to indicate that the layer is a smart object. When you transform the layer a diagonal crossed line will appear over the object, to remind you that it's 'smart', and can be restored to its original size at any time.



You can scale a smart object back up to full size with no quality loss in the same way as a vector graphic

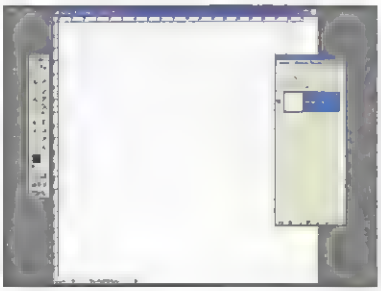
Create your components

Use Photoshop's tools and filters to create the background graphic for your radar screen

Extras

Photoshop has plenty of tools to assist you in your graphic and animation design in its View > Extras menu. The blue guides used in this tutorial are extras that enable you to arrange your component layout accurately. Extras are there to help you with your design, but they won't appear in the final image.

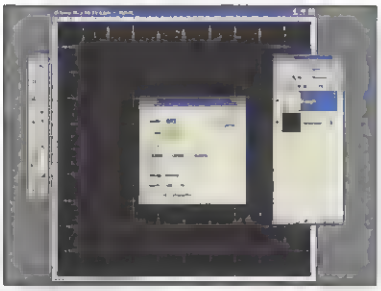
1 **Go to File > New to create a square-shaped document. We made ours 20cm wide by 20cm high, with a resolution of 144 pixels/inch. This file has a much larger resolution than the finished GIF will have, but we can reduce the resolution at a later date. Designing in a larger document helps maintain image quality, and makes it easier for us work on the finer details.**



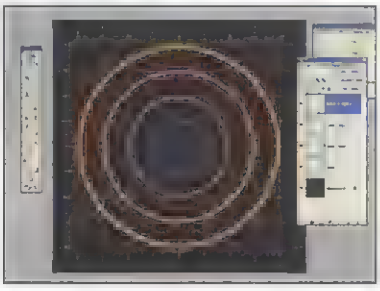
2 **Press [Ctrl]/[Command]+[R] to display the rulers. You can see from the rulers that the file is indeed 20x20cm in size. Click inside the vertical ruler on the left, and drag the cursor to the right until the blue guide rests at 2cm. Drag another guide to the 4cm point. Continue placing guides at 2cm increments across the screen; these will help you create a balanced and uniform design.**

Info palette

You can place guidelines on the screen with more accuracy by using the Info palette. Go to Window > Info (or press [F8]). The Info palette tells you exactly where you're placing your guides, so you can create very precise layouts.



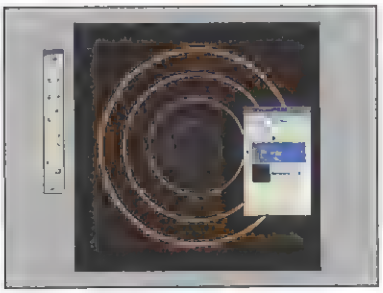
3 **Drag guides from the horizontal ruler, and place them as shown to create a grid. Select the Paint Bucket Tool [G], and fill the background layer with black. Change the foreground color to orange, and create a new layer. Select the Elliptical Marquee Tool, and hold down [Shift]+[Alt]/[Option] to draw a perfect circle. Go to Edit > Stroke, and fill the inside of the circle with a 15-pixel line.**



4 **Press [F] to edit in Full Screen Mode, to hide distracting on-screen elements. Duplicate the orange circle layer. Go to Edit > Transform > Scale. Press [Alt]/[Option] to make the circle scale from the centre, and hold [Shift] to keep the circle shape. Scale the circle down so that it fits into the next grid box as shown. Repeat the technique to create more circles for your radar screen.**

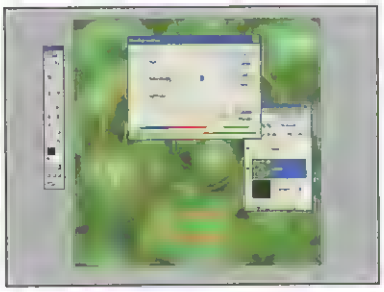
Create your components

Use filters to add more texture and detail to your graphic, and streamline your workflow

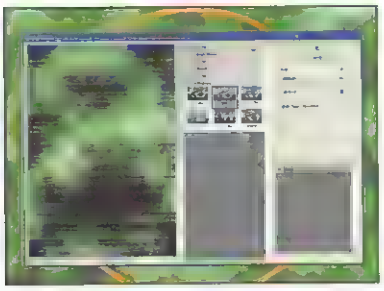


5 **Hide the blue guides for the moment (see sidebar). When you create a graphic from multiple elements the Layers palette can get very crowded. Keep things looking less cluttered, and streamline your workflow, by holding [Shift] and clicking on the layers that make up the orange circles. Press [Ctrl]/[Command]+[G] to group the layers, and label the group Circles.**

6 **Create a new layer called Clouds, and place it beneath the Circle group layer. Press [D] to restore the foreground and background colours to black and white. Go to Filter > Render > Clouds to fill the Clouds layer with a fractal cloud pattern; this will form the basis of our radar screen's background texture.**



7 **Target the Clouds layer and go to Image > Adjustments > Hue/Saturation. Tick the Colorize option. In the Hue/Saturation dialog box set the Hue to 113 to turn the clouds green, and set the Saturation slider to 49 to make the colour more vivid. Click OK to apply the changes.**



8 **To give the Clouds layer a TV screen scan-line effect go to Filter > Texture > Grain. Set the Intensity to 40, Contrast to 53 and Grain Type to Horizontal. This adds horizontal lines of texture to the Clouds layer, and makes the radar interface look more realistic. Click OK to apply the filter.**

Hide and seek

Extras such as guides are very handy for laying out components like the circles in your design. However, they can become intrusive when you're adding other elements to the image. Press [Ctrl]/[Command]+[;] to hide any visible Extras. Use the same shortcut to make them visible again if you need access to them in the future. You can show and hide specific Extras by going to View > Show.

Sets and groups

In Photoshop CS you can place multiple layers into layer sets; this enables you to collapse them into a single folder. Click in the box to the left of the layer thumbnail to link them, then choose Layer > New > Layer Set From Linked. In CS2 layer sets have been renamed layer groups, but they work in exactly the same way.

Creating the radar beam

Use the Gradient Tool to modify your cloud texture, and create a sweeping radar beam

Layer masks

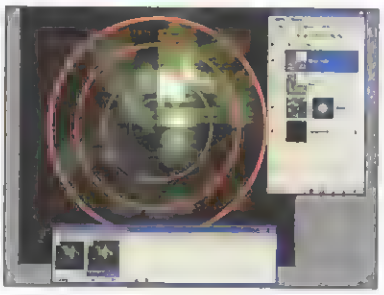
Layer masks provide a powerful way of editing a layer's content. If you paint black on a mask you make the corresponding layer's pixels 100 transparent, and if you apply white to a mask you make the corresponding layer's pixels 100 solid. Using a gradient that moves from white, through grey, to black enables you to make a layer's content fade out gradually, as in step 9.

9 **Target the Clouds layer, and click the 'Add a layer mask' button at the foot of the Layers palette. Select the Gradient Tool. Open the Gradient picker and choose the Foreground to Background preset, and select Radial Gradient in the options bar. Select the layer mask, and draw a gradient from the centre out. This will make the cloud texture fade out at the edges of the screen.**

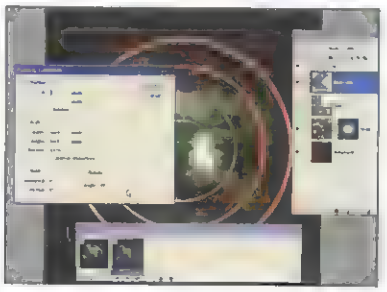
10 **Create a new layer called Beam, and place it above the Clouds layer, but below the Circles group. Edit > Fill the layer with 50% Grey. Press [Ctrl]/[Command]+[;] to turn on the Guides. Use the Rectangular Marquee [M] Tool to select a quarter of the Beam layer, and fill the selection with white.**

Round tripping

Although we still have some components to create (such as little aircraft icons), we can switch to ImageReady and begin animating the rotating beam. We can jump back and forth between ImageReady and Photoshop at any time, which gives us greater creative control over the finished result.



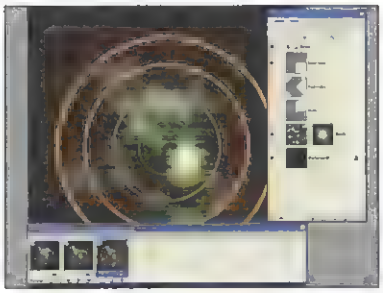
11 **Click on the Edit in ImageReady icon, and make sure the Animation palette is visible. Set the Beam layer's blending mode to Overlay. The white part of the layer causes parts of the underlying Clouds layer to get brighter. Go to the Animation palette, and click on the 'Duplicates current frame' icon. Go to the Layers palette, and duplicate the Beam layer to create Beam copy.**



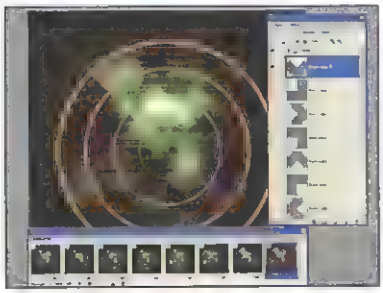
12 **Go to Edit > Transform > Numeric, and change the Rotate Angle to 45%; this will rotate the Beam copy layer by 45 degrees, causing the beam to begin its sweep around the screen. Click the eye icon to make the original Beam layer invisible, so that only the Beam copy layer is visible at Frame 2 of the animation.**

Adding details

Continue rotating the beam, and add extra graphic elements to your animated GIF

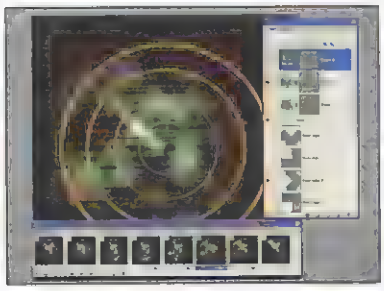


15 **In the Animation palette click the 'Duplicates current frame' button again. Go to the Layers palette, and duplicate the Beam copy layer to create a new layer called Beam copy 2. Go to Edit > Transform > Numeric, and rotate Beam copy 2 through 45 degrees. Hide the Beam copy layer, so that only Beam copy 2 is visible at Frame 3 of the animation.**



14 **Repeat the layer duplication and rotation technique to add a total of 8 frames and 8 Beam layers to your animation. Play the animation, and watch the radar beam sweep around in a looping 360 degree circle as the rotated beam copy layers turn on and off in sequence. Stop the animation, and rewind to the first frame.**

15 **We can add more components to the animation by switching back to Photoshop. Click on the Custom Shape Tool, and open the Custom Shape picker from the options bar. Click on the triangular pop-up menu and select Symbols. Here you'll find a handy plane icon – add several planes to the design on separate layers.**



16 **Switch back to ImageReady. Initially the planes will be visible throughout the animation. Turn off the plane layers for each frame and advance step by step through the sequence: when the beam overlaps a plane make sure the plane's layer is visible during that frame. Now the planes will only be visible as the beam sweeps over them. Check Radar.gif to see the finished result.**

More actions

Instead of repeatedly going to Edit > Transform > Numeric to rotate the beam layer through 45 degrees, you could create an action that does the job for you; see page 45 to discover how to create actions. You can even assign a keyboard shortcut to the action, and rotate each new beam layer with a single keystroke.

File size

For a less jerky, smoother rotation you can add extra frames, and make the copied layers rotate in smaller increments. Of course, the smaller the increments you use, the more frames you'll need to make an object rotate through 360 degrees to create a looping animation. We've kept our animation down to eight frames, to limit the size of the final GIF.

Create a scrolling background

Create the illusion of movement by animating background and foreground elements

Missile.psd
To allow you to get on with animating the missile we've created the components for you. Check out the Photoshop document on the disc: you'll find the missile on one layer, and the clouds and exhaust flames on another layer. By tweening the cloud layers, and turning the exhaust flames on and off, you'll create an infinitely looping animated sequence in which the static missile layer appears to fly.

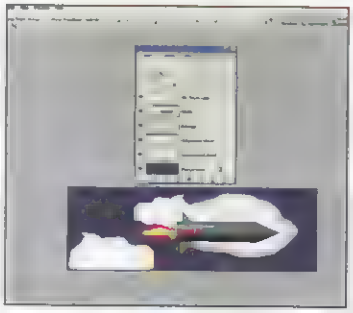
Cast your mind back to the bouncing ball exercise in Chapter 2, where we showed you how to make the ball appear to move by creating two key frames in the Animation palette. In the first frame we placed the ball layer in the air, and in the second frame we moved the ball layer so that it rested on the ground. By tweening between these two key frames showing the ball in its start and end positions we were able to add several intermediate frames to make the ball layer physically move from point A to point B, and this created the impression that the ball was falling.

An alternative way to create the illusion of movement is to animate other objects in a scene, while keeping the main object static. In the walkthrough on the following page we'll create the illusion of a flying missile by making foreground and background cloud layers move. This is a similar technique to the old cell animation trick of having a piece of art scrolling past in the background, while the main character runs on the spot.

Making the components

Here's how we created the missile and clouds

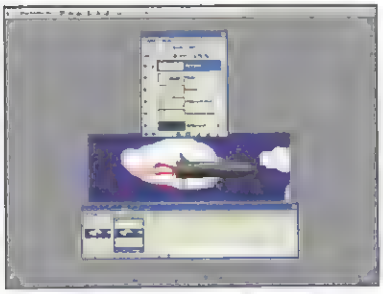
We drew the missile's body with the Rectangular Marquee Tool. We used the Polygonal Lasso Tool to create the nose cone, fins and exhaust, and all the sections were filled with grey. To add shading we used the Gradient Tool set to the Reflected Gradient option. The flame effect was drawn with the Freehand Lasso, coloured and faded using a Foreground to Transparent gradient. We used the Freehand Lasso to create cloud layers; a large background cloud and a smaller cloud behind the missile, plus a foreground cloud designed to pass in front of the missile. The clouds are all we need to create the illusion of the missile's movement.



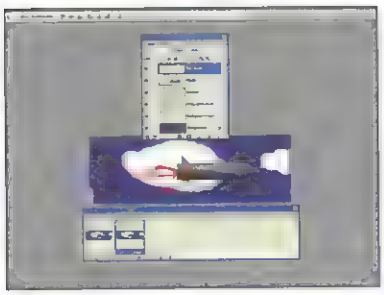
Three separate cloud layers (and seven frames of animation) are all we need to make the missile fly forever

Scrolling background

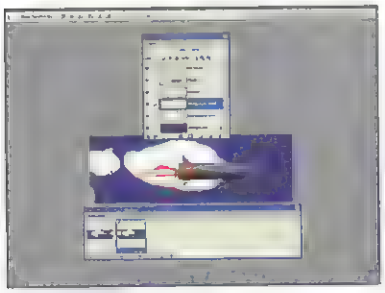
Create the impression of speed by moving and tweening the different cloud layers



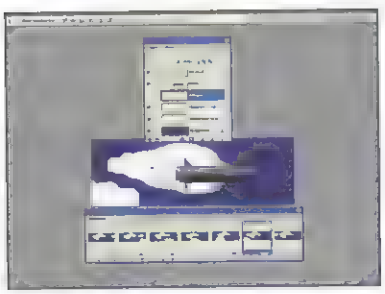
1 **Create your own missile and cloud file, or open Missile.psd from the cover disc. The Foreground cloud and Midground cloud layers have their components placed the right-hand side of the screen. Open the Animation palette, and click on the 'Duplicates current frame' icon to create a second key frame. Select the Move Tool [V].**



2 **With Frame 2 targeted, click on the Foreground cloud layer to select it. Drag the cloud to the far left of the screen, so it nearly disappears off the edge of the visible area; this will make the foreground cloud cover the greatest distance, creating the illusion that it's moving more quickly than the clouds in the background.**



3 **Select the Midground cloud layer. Drag this cloud to the left of the screen, but make it travel less far than the foreground cloud; this will make the cloud appear to travel more slowly than the foreground cloud, as it will have less distance to cover in the same amount of frames. Leave the Background cloud layer as static component to add a sense of perspective and depth.**



4 **With Frame 2 still targeted, select Tween With: Previous Frame, and add 5 frames. Tick All layers, and click OK. Preview the Animation. The Foreground cloud appears to move across the missile at the fastest speed. The Midground cloud travels behind the missile, creating the illusion of 3D space. Make the flame invisible in Frames 2, 4 and 6, so that it flickers on and off.**

PSDs and ImageReady

In versions of Photoshop older than CS2 you have to open a file in Photoshop before you can take your PSD into ImageReady. If you have a copy of CS2 you can right-click ([Ctrl]+click) on a PSD, and choose Open With ImageReady from the pop-up menu – Photoshop doesn't need to be open.

Relative speed

In our animation the virtual camera is travelling at the same speed as the missile, so the missile occupies the same position in the frame throughout; only the cloud layers give us a visual clue that the missile is moving. Objects further away look like they're travelling more slowly than objects nearer the camera, and this is why we keep the distant background cloud static, while the foreground cloud whizzes past the camera. This difference in cloud speed also gives the scene a sense of depth and realism.

Creating an ECG screen

Create a high-tech animated interface by using masks to reveal the content of a layer

Playing it straight
Our heart rate graph was created by distorting a horizontal green line. To create a perfectly horizontal line select the Brush Tool [B]. Click once to place the first point of the line at the left-hand side of the screen, then hold down [Shift] and click on a point at the opposite side of the screen; the Brush Tool will generate a straight line by connecting the two points.

Electrical gizmos and gadgets do all sorts of different jobs, from playing our favourite tunes to monitoring our heart rate. Most electrical equipment is designed to communicate with us through an electronic interface that displays a variety of information in the shape of graphic and symbols, and we can use Photoshop's filters and ImageReady's animation tools to create all sorts of hi-tech interfaces with the minimum of effort.

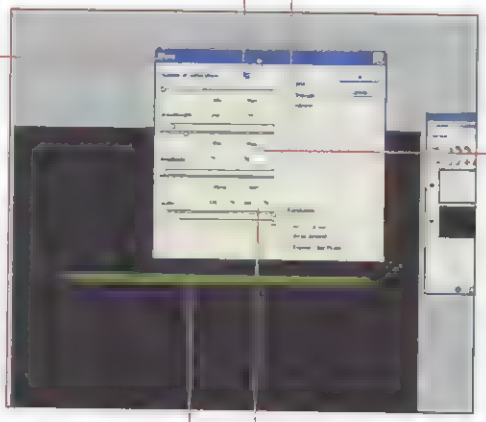
In the mini-walkthrough opposite we'll show you how to create the interface of an ECG machine as it monitors a heartbeat; the pulses of the heart are indicated by a scrolling graph. What initially appears to be a complex animation challenge is actually very simple, as the only moving component in the animation will be a tweened mask that repeatedly slides across screen, making it appear that regular heart beats are generating a graph. Once you've mastered the animated mask technique you can adapt it to create all sorts of hi-tech interfaces web and TV screen animations.

Making waves

To keep the wave relatively simple, choose a low value for Number of Generators; a higher number would create a graph indicating a faster heart rate.

Go to Filter > Distort > Wave to open the Wave filter's dialog box.

Set the foreground colour to a suitable green, and draw a straight horizontal using the Brush Tool.



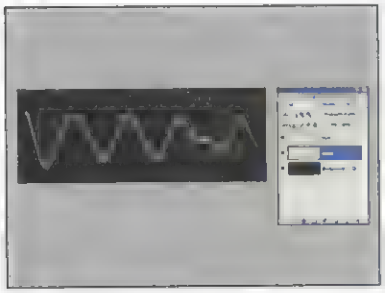
To create a suitably shaped ECG graph from your initially straight line choose a Sine wave from the Type section.

To create a wave with varying peaks and troughs, give the Minimum and Maximum wavelengths different values.

To make the heart rate appear more erratic, choose different numerical values for the Minimum and Maximum amplitudes.

Animating a mask

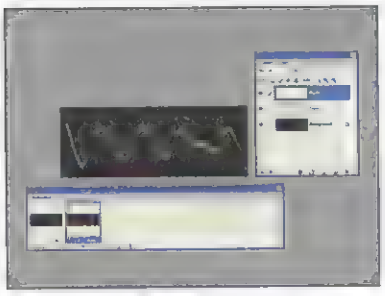
Create a looping ECG-style graphic by animating a mask to wipe across the screen



1 **In Photoshop create a file containing the green sine wave against a black background. You could add a coloured grid to make a more textured and detailed ECG interface, but keeping the animation simple and less detailed will keep the file size of the finished GIF small. Create a new layer called Mask, and place it above the sine wave layer.**

ECG.gif

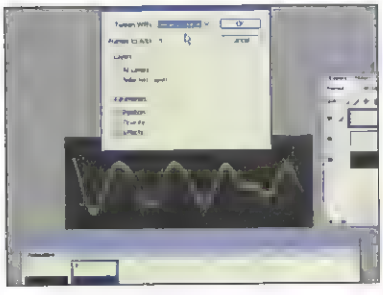
View our simple but effective version of the ECG animation by playing the animated GIF on the cover disc. You can use the animated wipe technique to create all sorts of similar animations, such as an audio waveform from a music player, or the reading on a seismograph.



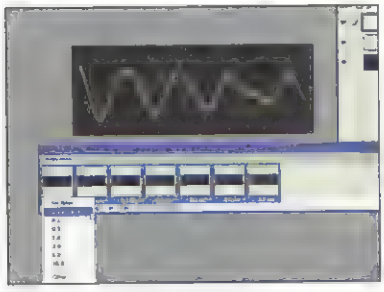
2 **Edit > Fill the new layer with black, then click the Edit in ImageReady button. In ImageReady, open the Animation palette, and click the 'Duplicates current frame' button to create a second frame. With Frame 2 targeted in the Animation palette drag the black Mask layer all the way to the right, to reveal the sine wave layer.**

Smoother is bigger

In step 3 we add five tweened frames to make the Mask layer wipe across to reveal the Wave layer beneath it; this creates a jerky but effective animation. To create a smoother wipe you'll need to add more tween frames, although having more frames will increase the file size of the finished GIF.



3 **To make the Mask layer wipe from left to right, and reveal the green Wave layer beneath it, click on the Tween icon in the Animation palette. Select Tween With: Previous Frame, and add 5 frames to keep the final GIF's size to a minimum. Click OK to create the tweened frames. Your animation will now consist of seven frames in total.**



4 **Preview the animation – the heart rate is far too fast for a healthy human! To slow down the pulse, hold [Shift] and click on the first and last frames to select all the frames in between. Go to the Frame delay pop-up of the first frame, and change it from No Delay to 0.1 frames per second. All the frames will change to have the same delay time, which will slow down the animation.**

On target

Create an animated sniper's sight with the help of Photoshop's extensive symbol library

Shift it
The Custom Shape Tool shares a compartment with five other tools, and all these tools share a single keyboard shortcut, which is [U]. Pressing [U] will access the last tool from the compartment that was used; to cycle through all the available tools, press [Shift]+[U].

One interface that's often seen in the world of movies and computer games is the high-tech gun sight; from to James Bond to Call of Duty, snipers and assassins use telescopic sights to get a clear shot at their enemies. We can use Photoshop's library of vector-based symbols to create a gun sight animation, with a crosshairs that changes colour when the target has been selected. The moving figure icon will also change colour to indicate the dramatic moment when the trigger is about to be pulled; our GIF will finish with the figure flashing red and then vanishing, indicating a direct hit!

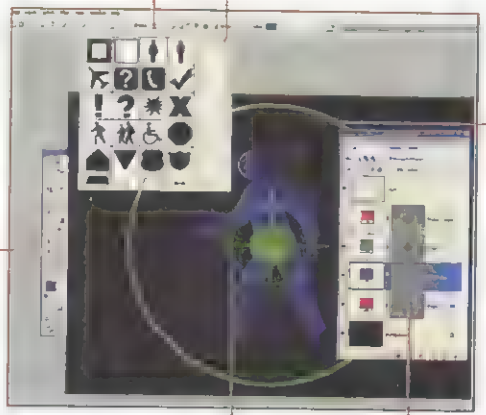
Use symbols to create a stylised high-tech gun sight, with flashing icons that change colour when the sight is on target

Create the components

To select a specific shape for the Custom Shape Tool click on the Custom Shape picker in the options bar.

Click and hold on this compartment of the toolbox to access the Custom Shape tool, or press [Shift]+[U].

Use the shape called Registration Target to create the target icon at the centre of the image. Create an orange and a green version of the target.



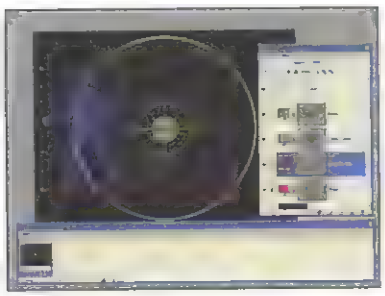
To access the shapes required for this project click here and select Symbols. Choose the option to append the symbols to the list of current shapes.

Create the outer ring of the target interface by drawing a circle with the Elliptical Marquee Tool, and Edit > Stroke the selection with green.

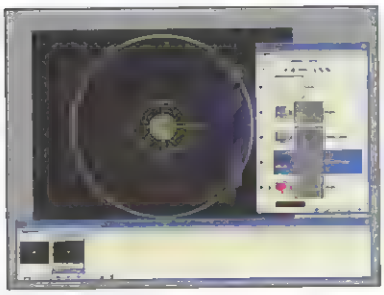
Use the Pedestrian symbol for our sniper's would-be victim. Create a blue version of the figure, then a red copy below it, and link them.

Animating the elements

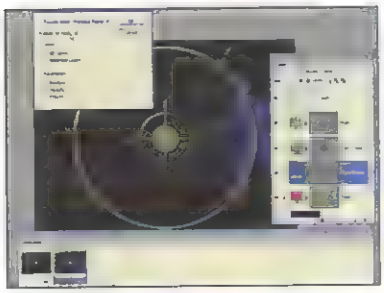
Create key frames in ImageReady to make your figure move in and out of danger



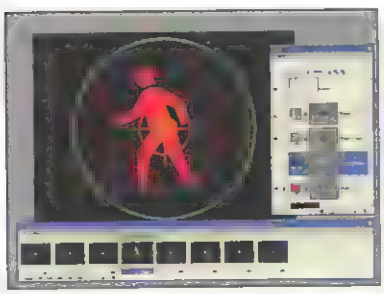
1 **Open your source file in Photoshop, and click the Edit in ImageReady icon. Make sure the Animation palette is visible. Target Frame 1, and make sure the blue and red figure layers are linked in the Layers palette. Select the Move Tool, and place the figure to the left of the target's centre, as shown. The linked red figure hidden on the layer below will also move to this position.**



2 **Click the 'Duplicates current frame' button to create Frame 2. Now move the figure icon to the right of the interface. In CS2, as you drag the figure to the right a blue guideline will pop up to enable you to keep it horizontally aligned with the figure in Frame 1. If you don't have this guide, hold down [Shift] to constrain the figure so it can only move horizontally.**



3 **To make the figure move from its position in Frame 1 to the new position in Frame 2, click the Tween button at the bottom of the Layers palette. Set it to Tween With: Previous Frame. Add 6 new frames to the sequence, and click OK.**



4 **Press [Y] to preview the animation. The figure will move from left to right, as if the telescopic sight is panning past him. Advance to the frame where the gun sight passes directly over the figure. To make the figure flash red at this particular frame, make the blue figure layer invisible by turning off its eye icon. Hide the green target icon as well, to indicate a target lock.**

Target.gif

Before you animate your components, take a look at the finished GIF to see the subtle effects you can use to enhance your animation. For example, the target icon flashes red whenever the figure is in the sight, to indicate a target lock.

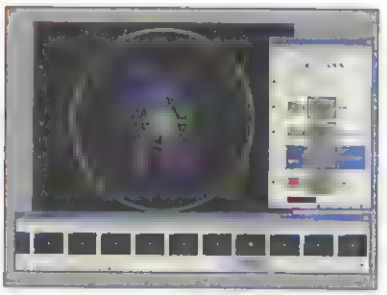
Target.mov

We'll take you step by step through the whole process of creating and animating our gun sight project's components in the training movie on the cover disc. This will help clarify all the steps and techniques involved.

Direct hit!

Slow down the movement of the gun sight to enhance the drama of the animation

Ready, aim, fire!
By making the figure icon move less, and using more tweened frames to make it move, we can change the pace of the animation in mid-sequence. This enables us to draw out the drama, and make the movement in the animation more realistic.

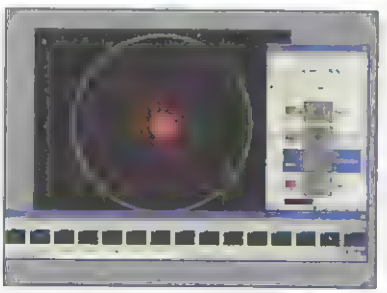


5 **Select Frame 8 in the Animation palette. Click the 'Duplicates current frame' icon to create Frame 9. Use the Move Tool to drag the figure to the left, but don't place him as far left as in frame 1; we want to create the effect of the gunman lining up his target. Use the Tween dialog to add 10 more frames to the sequence between Frame 8 and 9; this will give you 19 frames in total.**

6 **The extra tweened frames slow down the animation, making it look like the gunman is taking more care to get a bead on his victim. To add drama, make the figure and the crosshairs icon change colour again when the target moves across the figure.**

www.gifs.net
To get inspiration for your own creative GIFS, check out sites like the one listed above – it's packed with animations on nearly every theme imaginable, from animals to entertainment. You can see a preview of each GIF, and there are hundreds to explore.

7 **Now select frame 19, and click the 'Duplicates current frame' icon. Use the Move Tool to place the figure at the centre of the target. Add 10 more tweened frames between Frame 19 and Frame 20, to let the sniper finally get the target in his sights. At frame 30 hide the blue figure layer, so that the red figure is revealed, and make the crosshairs turn orange.**



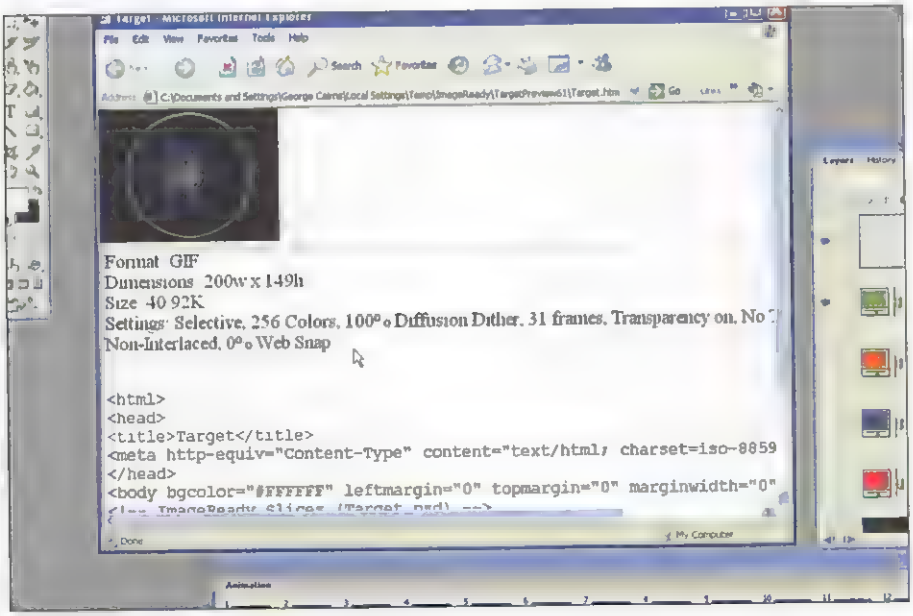
8 **Play back the sequence. The movement of the gun sight slows down as it closes in on the target. Select Frame 30 in the Animation palette, and click the 'Duplicates current frame' icon. Make the red figure icon invisible, so that the figure vanishes once the gun sight has come to a halt, implying that the target has been eliminated.**

Tinkering with time

Fine-tune the timing of individual frames to take control of the unfolding narrative

9 **At this stage the frames are set to the default duration of No Delay; by editing the duration of specific frames we can add extra tension to the sequence. First select all the 31 frames in the Animation palette, and set their duration to 0.1 seconds. This will slow down the general frame rate of the GIF, so it's not over in an instant. As the sequence has a distinct narrative, set looping to Once.**

10 **Select Frame 30. This is the last frame to show the figure before it vanishes, indicating that the victim has been shot. Change the duration of this frame to a delay of 2.0 seconds – this will create a dramatic pause before the gunman dispatches his victim. Once the figure has vanished change the crosshairs icon back to green, by making that layer visible for the final frame.**



Preview

You can preview the animation in ImageReady by clicking the Preview Document icon in the toolbox; however, you aren't seeing an optimised version of the GIF. You can get more idea of how the GIF will behave in a browser by clicking on the 'Preview in iexplorer' icon; this method will also tell you the file size.

Go large

Feel free to create your animated GIF at a larger resolution than the end result needs to be. Once you've worked out the movement and the timing of the GIF you can click on the Edit in Photoshop icon. In Photoshop you can crop the document to lose any unnecessary space around the edges, and go to Image > Image Size to reduce the GIF's width and height to something a bit more web-friendly. We shrunk our GIF to 200x149 pixels, which made it weigh in at 40.93K.

Chapter 5

FROM DOGS TO DALEKS: MAKING FIGURES MOVE

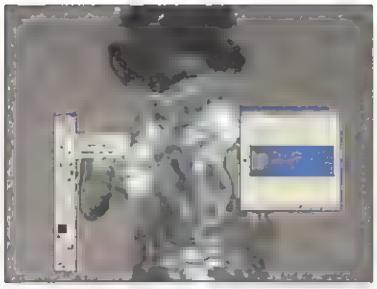
Animators have been making characters move since the earliest days of the art. We'll show you how to use the ultra-modern tools of Photoshop and ImageReady to bring figures to life

Animations are created by rapidly playing a series of still frames to achieve the illusion of a moving image. In theory you could draw hundreds of frames featuring a character moving, and then use ImageReady to animate them. That's fine if you're a talented artist, but most of us don't have those particular skills. Fortunately, ImageReady and Photoshop have all the tools we need to create our own character animations.

Stop motion

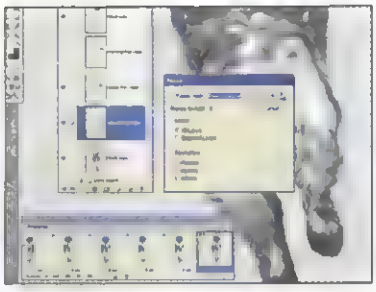
Over the years creative people have used different techniques to produce their own character animations. Ray Harryhausen was a talented artist, but instead of drawing his characters he chose to bring model skeletons and dinosaurs to life by moving their limbs or heads in tiny increments, and snapping a single frame of film to record each change in movement. When the still frames were run through a projector the models appeared to move, and possess their own personality.

The stop-motion techniques used by Harryhausen enabled him to bring a variety of legendary characters to life, such as the snake-haired medusa in *Clash of the Titans*. We'll look at photographing and animating our own inanimate

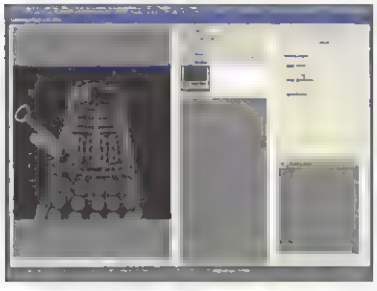


Page 76 *Isolate a subject in a source photo using the Magnetic Lasso Tool*

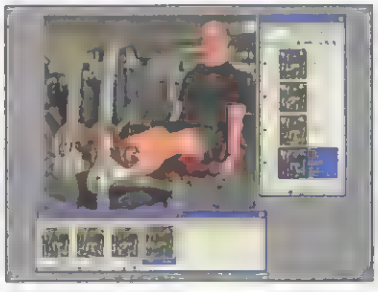
Page 78 *Arrange your components on layers to prepare them for animating*



Page 79 *Use tweening and frame reversing to make a dog dance!*



Page 81 *Use real-life objects as models for stop-motion animations*



Page 83 *Use a sequence of photos to create looping animated GIFs*

Page 86 *Use the Liquify filter to add personality to inanimate objects*

objects, to create source frames that we can animate in ImageReady.

Cut-out characters

In the 1970s Terry Gilliam cut out figures from prints of classical paintings, and designed 2D characters that he could animate frame by frame. Gilliam created his characters with separate arms and legs, so that he could move their limbs independently while they lay on a rostrum under a film camera. Gilliam's simple yet stylised animations became famous as an integral part of the TV show *Monty Python's Flying Circus*. We can adapt Gilliam's simple but effective approach to animation to create our own moving characters using Photoshop and ImageReady. We'll use Photoshop to cut out a source image of a dog, then place its legs and head on separate layers. We can then use ImageReady's tweening powers to make the limbs and body move, so the dog appears to dance.

Harryhausen and Gilliam created their characters using different techniques, and made them move without the need to draw a single frame. In this chapter we'll take inspiration from these animation legends, and use ImageReady's and Photoshop's strengths to create our own moving characters.

The dancing dog

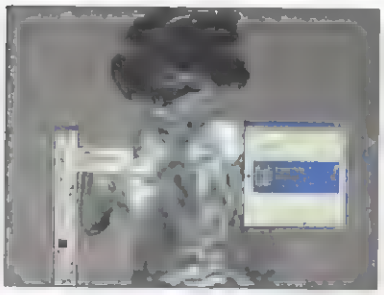
Before we can make our dog dance, we need to isolate him from his background

On the web

Dancing animals are all the rage on the internet, and can be found strutting their stuff on various websites. You'll find photo-realistic dancing cats adorning e-cards, for example, having been brought to life using the same techniques demonstrated in this walkthrough. Having mastered the processes involved, you can use your own photos to get the family pooch performing!

Masking shortcuts

When modifying your selection marquee in Quick Mask mode, you can quickly switch the foreground colour between black and white by pressing [X]; this enables you to quickly add pixels to or subtract them from the selection. Press [D] to reset the foreground and background colours to the default black and white.



1 **Open Dog01.jpg from the cover disc, and select the Magnetic Lasso Tool [L]. As there's plenty of contrast between the dog and the background, leave the tool's options set to their defaults. Click to place an anchor point on the edge of the dog, and draw around its outline. The lasso will automatically place anchor points around the pup to create a selection marquee.**

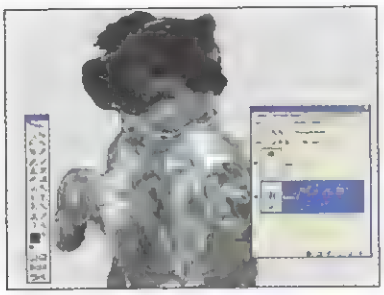
2 **To complete the selection click to place the last anchor point on the first. The selection won't be perfect, as the tool will have strayed occasionally and missed bits of fur; this isn't a problem, due to the stylised, cut-out nature of the animation, but you can tidy things up a little by pressing [Q] to edit the selection in Quick Mask mode. The unselected areas will turn red.**

3 **Select the Brush Tool [B]. Open the Brush Preset picker in the options bar, and select a small soft-edged brush. To add bits of missed fur to the selection set the foreground colour to white – this will remove parts of the red mask, and expand the selected area. If you need to remove bits of carpet from the selection, use a black brush to deselect these areas.**

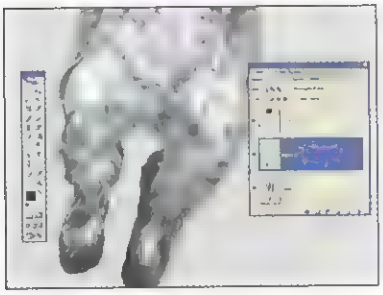
4 **To see how the selection is shaping up, press [Q] again to leave Quick Mask mode. Once you're happy with the selection go to Layer > New > Layer via Copy. This will place the pup on a new layer in the Layers palette. You can now delete the unwanted Background layer, by dragging it to the trashcan icon at the foot of the palette.**

Edit the components

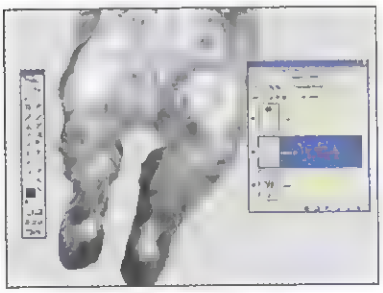
Manipulate the source image in Photoshop to prepare it for animating in ImageReady



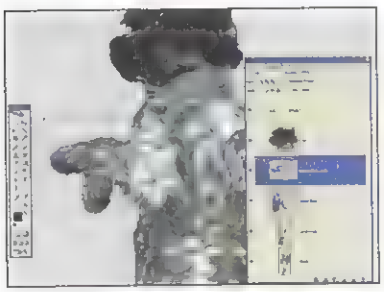
5 **Select the Freehand Lasso Tool and draw around the pup's head and neck. Press [Ctrl]/[Command]+[X] to cut the selection, and then [Ctrl]/[Command]+[V] to paste the head on to a new layer. When you paste pixels Photoshop places them at the centre of the work area; use the Move Tool [V] to place the head above the body so it's in the correct location.**



6 **Select the pup's right hind leg using the Freehand Lasso. Cut and paste the limb so it's on a new layer, and use the Move Tool to position it as shown. When you move the head or leg in ImageReady there may be noticeable gaps, due to the components being on separate transparent layers – to minimise these gaps select the Clone Stamp Tool [S].**



7 **Go to the cut-out leg layer, and press [Alt]/[Option] to sample part of the dog's hip. Spray the sampled fur to extend the leg pixels over the edge of the body layer to hide potential gaps between the leg and body. Do the same with the dog's neck, to hide gaps between the neck and head. Repeat steps 5 to 7 to place the pup's right front leg on a new layer too.**



8 **Label the layers Head, Upper Paw, Lower Leg and Body. Duplicate the Upper Paw layer. On the copied paw layer select the end of the paw with the Freehand Lasso Tool [L]. Edit > Transform > Rotate the paw so it's pointing, instead of flopping. Label this layer Pointing Paw. Hold down [Shift] and select all the layers, then press [Ctrl]/[Command]+[G] to group them.**

Groups and sets

If you use Photoshop CS you can place multiple layers into folders called layer sets; these are simply folders in the layers palette in which you can store grouped layers. In CS2 layer sets were replaced by groups. Groups are great ways to control multiple layers, as you'll see on the following page.

Out of bounds

If you're using Photoshop CS2 you can get a much better look at the contents of a layer thumbnail. Click on the arrow icon at the top-right of the Layers palette to open the palette menu. Select Palette Options, and in the dialog click on the Layer Bounds option in the Thumbnail Contents section. This will make the layer thumbnails show only visible pixels, giving you a close-up view of a paw or head, for example.

Let's dance!

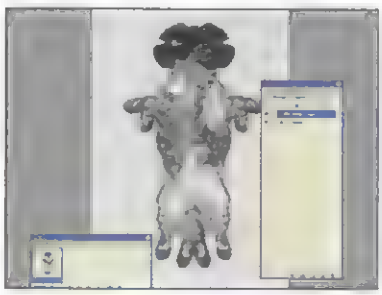
We can get our disco dog to strut her stuff by changing the visibility of specific layers

Shrink it

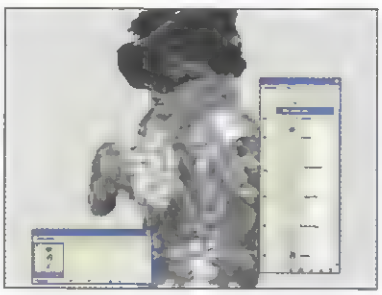
As this project develops you'll end up with quite a few layers – you'll make the dog appear to move by turning specific layers and groups on and off. If your computer doesn't have enough RAM it may start to chug, especially when shifting whole groups around. Feel free to go to Image > Image Size and reduce the size of the file; you'll need to shrink it later anyway to create a suitably sized GIF.

Arrow keys

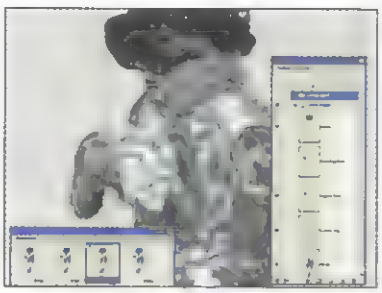
You can use the Move Tool in step 9 to position the duplicated group of layers so that the horizontally flipped components overlap the original group. Fine-tune the final position of the duplicated group by using the left or right arrow keys to move the group's layers pixel by pixel.



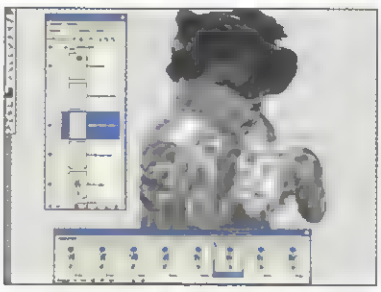
Click the Edit in ImageReady icon. Drag the Group 1 folder (or layer set) on to the 'Create a new layer' button at the foot of the Layers palette to create a duplicate group. Target the Group 1 copy layer, and go to Edit > Transform > Flip Horizontal. Use the Move Tool to make the transformed group's components overlap the original dog, as shown.



Re-label Group 1 as 'Look Right', and re-label Group 1 copy as 'Look Left'. Target Frame 1 in the Animation palette. Make the Look Left group invisible at Frame 1 by clicking the eye icon in the Layers palette. Open the Look Right group's folder in the Layers palette by clicking on the triangle icon next to it. Turn off the Pointing Paw layer, so that it's not visible at Frame 1.



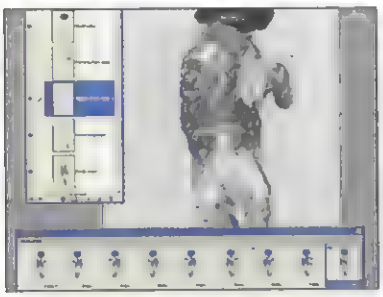
Click the 'Duplicates current frame' icon. In the Layers palette make the Pointing Paw layer visible at Frame 2, and hide the floppy Upper Paw layer. Duplicate Frame 2 to create Frame 3; hide the Pointing Paw and reveal the Upper Paw. Duplicate Frame 3 to create Frame 4; show the Pointing Paw and hide the Upper Paw layer. Play the animation – the dog will tap her paw.



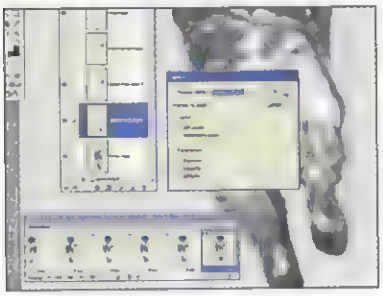
Target frame 4 and click the 'Duplicates current frame icon'. Hide the Look Right group and reveal the Look Left group; the dog will flip to face the opposite way. Open the Look Left group, and make the Pointing Paw layer visible. Duplicate the current frame and make the floppy Upper Paw visible while hiding the Pointing Paw layer. Create two more frames featuring alternating paws.

Extra moves

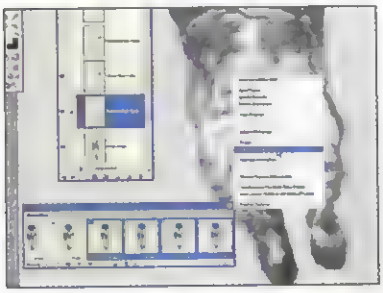
Get the pooch toe-tapping and paw-pointing to the rhythm by using tweening and cuts



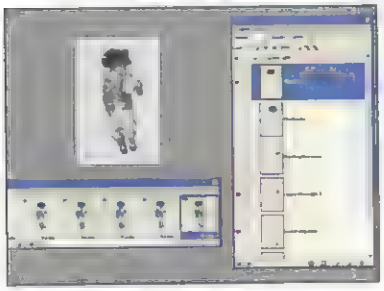
13 We could keep the animation simple, and make the dog's moves loop back and forth over eight frames. However, as our dog is trying to out-dance John Travolta, we'll add some variety. [Shift]+click to select the eight frames in the Animation palette, and click the 'Duplicates current frame' icon. You'll now have 16 frames that make the dog go through her opening dance moves twice.



14 Duplicate Frame 16. At Frame 17 target the Lower Leg layer in the Look Left group. Use the Move Tool to drag it upwards a short distance. You could make the leg move upwards over a single frame, but for a smoother movement click the Tween icon. Choose Tween With: Previous Frame and add 2 frames. The leg will move upwards more smoothly from frame 16 to Frame 19.



15 To get the dog to tap her foot twice [Shift]+click to select frames 16-19. Click the 'Duplicates current frame' icon; this will create frames 20–23. Select these last four frames, open the Animation palette menu and choose Reverse Frames. This will make the foot move from the raised position back to its starting point. To get the foot to tap again select and duplicate frames 17-23.



16 Feel free to repeat any of the previous techniques to add more frames to the sequence. You can add or modify frames to make the paw point, and the foot tap, whenever you like. You could even duplicate the dog's head in either of the two groups, and Edit> Transform > Flip the copied head to make it look left or right, regardless of which way the body is pointing.

DiscoDog.gif

See the finished animation by dragging the GIF from the cover disc into an open browser window (or choose File > Open from your browser menu). We've added a couple more head moves to our final animation, to make the dog look left and then right as she points her paw.

Set the tempo

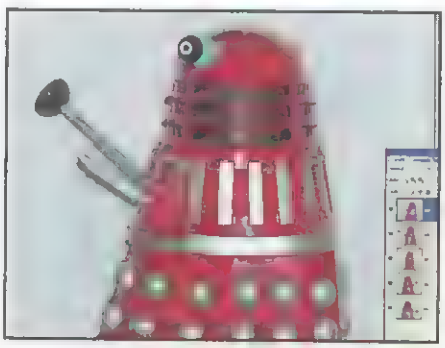
Finish off the animation by slowing down the speed at which it plays. Initially the frames will default to No Delay, making the pup dance at high speed. We made our dog start off with some paw pointing at 0.5 frames per second, before speeding up to 0.1 frames per second for the rest of her dance. Now all you have to do is find a suitable piece of music, and embed a link to an audio file in your web page, to give your prancing pooch something to dance to.

Stop motion

Bring life to poseable toys and models using the stop-motion animation technique

www.stopmotion animation.com
This site is full of articles on the art of stop-motion – if you're new to the concept check out the very useful Newbie Corner to get up to speed. The site looks at traditional film-based stop-motion, and also covers using computers to create stop-motion movies. There are also practical tips on building puppets with armatures that will enable you to pose them.

Ray Harryhausen turned his fully poseable monster models into living creatures that stalked the silver screen using the stop-motion technique. We can adapt this process, and give it a 21st century spin, thanks to Photoshop's and ImageReady's tools. We'll kick off by showing you how to capture the source frames for your animation by pointing a digital stills camera at an object (rather than a film camera, as Harryhausen used). We'll then demonstrate how to modify those digital stills in Photoshop to turn them into stylised art, before running them in sequence to create an animation using ImageReady.



Create a stylised hand-drawn animated GIF by filming a real-life object and applying filters to each frame

Set up and shoot

Move your model's arms, legs or other appendages in tiny increments, and take a shot after each movement. When you run the shots together in ImageReady the object will appear to move.

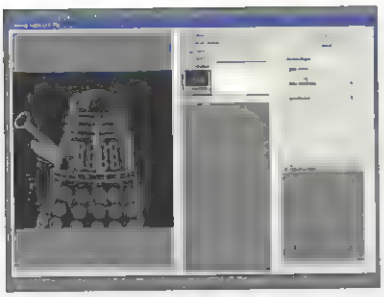
Set your camera's iris to manual, so that the exposure doesn't vary from shot to shot. This will ensure even light levels in each of your animation's frames.

Place your digital camera on a tripod, so that nothing moves in the scene except for the model.

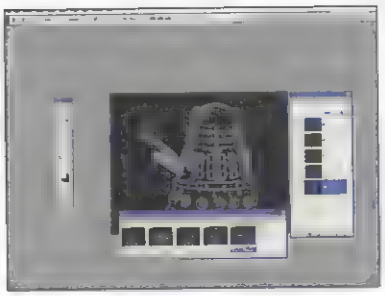
To avoid moving the camera even slightly set it to self-timer. If possible, use a remote control to trigger each shot.

An-i-mate!

Open a series of source photos in Photoshop, and stylise them using the Glowing Edges filter



1 **Open the file StopMotionSource.psd; it features five layers showing our posed Dalek model in different positions. To add a sci-fi effect to the source images go to Filter > Stylize > Glowing Edges. Set Edge Width to 4, Edge Brightness to 8 and Smoothness to 7. Apply this filter to every layer by targeting each one in turn and pressing [Ctrl]/[Command]+[F]).**



2 **Click the Edit in ImageReady button. Frame 1 will automatically be targeted in the Animation palette. Hide all the layers in the Layers palette apart from 01. Duplicate Frame 1 to create Frame 2, and make layer 02 visible. Duplicate Frame 2 to create Frame 3, and reveal layer 03. Repeat this process until you have five frames showing the content of each layer.**

3 **There aren't enough frames to get the toy to move smoothly as a looping animation. Once the toy rotates at Frame 5 the animation jumps to Frame 1, making the toy abruptly point in the opposite direction. To create a smoothly looping sequence select Frames 1–5 by [Shift]+clicking them. Click 'Duplicates current frame' to create another 5 frames.**

4 **Open the palette menu and choose Reverse Frames – now the toy will rotate back and forth. Test the timing of the animation. The toy will move manically back and forth at too fast a speed. [Shift]+click to select all the frames, then set the time to 0.2 of a second – this will slow the toy's speed down a little. You can see our finished GIF on the CD – Look for Stopmotion.gif.**

Frames and file size

The changes between each frame in our animation are quite large, which could lead to jerky movement. We could have shot more frames, and moved our model in smaller increments to get a smoother movie, but this would have created a larger GIF that would take longer to download.

Keep it simple

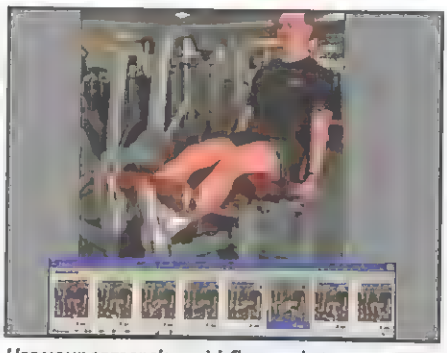
To reduce the file size of the animated GIF still further, we simplified the detail in the photographed source layers by applying the Glowing Edges filter in step 1. This meant ImageReady had less information to include in the final GIF, enabling us to create a faster-downloading, more cartoon-like animation.

Animating reality

Adapt the principles of stop-motion to create animated mini-movies from photographs

Rapid fire
Most digital SLR cameras have a rapid shoot setting, enabling them to take several photos in quick succession; some compact digital cameras also have this option. In general you're limited to two or three frames per second; this restricts you to capturing and animating short sequences, like the instructor operating the exercise machine in our example.

The stop-motion technique that was made famous by Ray Harryhausen is a great way of bringing life to inanimate objects, as we demonstrated in the previous walkthrough. Thanks to the rapid shoot feature on many digital cameras (see sidebar) we can capture the movement of real people and objects in a series of consecutive frames, making it easy to create an animated GIF that looks like video. To keep the file size down to a minimum you should restrict your GIF to showing a short sequence – in our example a trainer at a gym demonstrates the correct way to use a particular exercise machine.



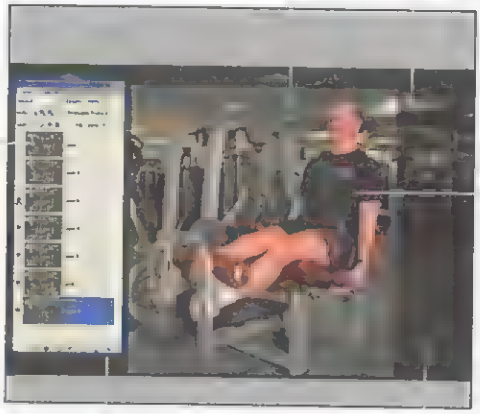
Use your camera's rapid-fire mode to capture a short burst of action that you can turn into an animated GIF

Shoot and prepare your source file

As before, when shooting your scene use a tripod; this will stop the background from moving, and enable you to focus on the action.

Open GymSource.psd from the cover disc – it contains seven layers that show the instructor's legs extending outwards, and then returning to the resting position.

When you're animating photos, remove unnecessary information to keep the final GIF small. Delete layers 5 to 7, as we can create the same movement by reversing layers 1 to 4 later.



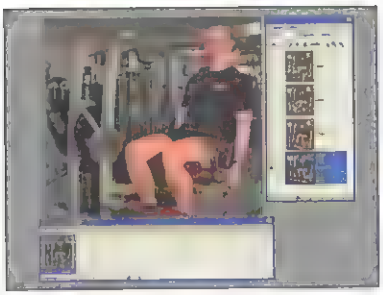
Again, set the camera's iris to manual when shooting source material to ensure consistent light levels.

Set the camera to manual focus, and focus it on the main subject; this will stop the camera changing focus during the animation.

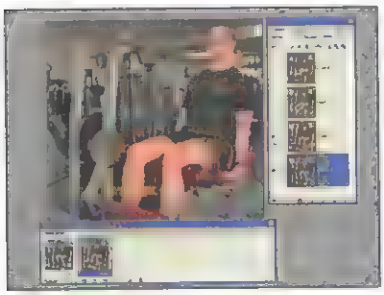
Use the Crop Tool [C] to remove parts of the scene that don't contain any valuable information; we're only interested in the moving parts of the scene.

Creating the movement

Take your source files into ImageReady to turn your action stills into a moving GIF



1 **Once you've cropped the source image in Photoshop, and deleted layers 5 to 7, click the Edit in ImageReady button. If it's not visible, choose Window > Animation to open the Animation palette. Turn off the visibility of layers 2 to 4, so that only Layer 01 is visible at Frame 1.**



2 **Click the 'Duplicates current frame' button at the bottom of the Animation palette to create Frame 2. Go to the Layers palette, and make Layer 2 the visible layer for that frame. Turn on Frame 2. Play the animation, and the subject will move his legs rapidly up and down as the sequence loops between the two frames.**

3 **Duplicate Frame 2 to create Frame 3. Make Layer 3 visible at Frame 3. Repeat the process to create a fourth frame showing Layer 4. Play the animation, and the subject will raise his legs up over the four frames. The sequence will then jump abruptly back to Frame 1, causing his legs to move from being fully extended to the resting position in a single frame.**

4 **To get the subject's legs to smoothly return from the extended position to a resting position, [Shift]+click to select Frames 1 to 4. Click the 'Duplicates current frame' button to create frames 5 to 8; these new frames will be automatically selected in the Animation palette. Go to the palette menu, and choose Reverse Frames to make the legs extend and retract smoothly.**

LiveAction.gif

Check out the animated GIF on the cover disc to see the trainer demonstrating the exercise machine. Although we only used four different source images we can extend the action by duplicating and reversing the order of the copied frames; this helps reduce the size of the finished GIF.

Timing

Test the finished animation by clicking on the 'Preview in iexplorer' icon; as we're used to seeing human movement we'll soon be able to tell whether or not the animation is moving at a realistic speed. To adjust the speed, select all the Frames in the Animation palette, and set them to a duration of 0.5 sec.

Digital manipulation

Use Photoshop's pixel-pushing tools to add character to photos of inanimate objects

Car.tif

You can find the car source photo that we shot for our walkthrough on the cover disc. It was shot directly from the front to make it easier to distort the radiator, and make the car 'smile,' using the Liquify filter.

So far in this chapter we've looked at adapting traditional animation techniques to create character animations. We created our dancing disco dog by chopping up a source photo Terry Gilliam-style, and moving the components around as if they were lying flat under a rostrum camera. We adapted Ray Harryhausen's stop-motion technique, using ImageReady to animate an object that had been photographed in different positions, and you also discovered how to shoot, prepare and animate a series of photographs to turn them into a sequence showing movement.

Since Photoshop is the most powerful image-editing tool on the planet, you can also use its amazing tools to manipulate source photos in whole new ways to give life and personality to inanimate objects. In the following walkthrough we demonstrate how you can use the Liquify filter to create a series of images that will enable you to make a car smile and wink, then use ImageReady to turn these edited images into an animation.

SELECTING SOURCE PHOTOS

A successful animation is dependant on the right source image

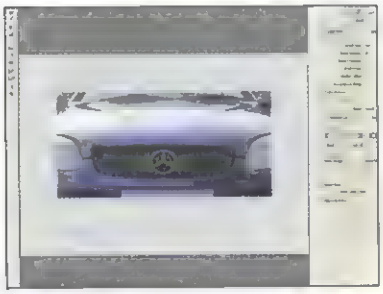
We decided to animate a car because many people invest their cars with a personality; some of us even name our cars, and feel unusually sad when we have to sell them. Cars also make a good subject for a character an'mation because it's easy to anthropomorphize them; a car's two headlights can resemble two eyes, and the radiator can often be adapted to take the place of a mouth. 'Living' cars are a popular movie theme, from Herbie and Chitty Chitty Bang Bang to the homicidal Christine in the John Carpenter movie of the same name. Photograph your (hopefully benign) car from the front, so you can manipulate its key features easily.

Headlights and a radiator grill provide all the visual cues that we need to add personality to this car

Liquid metal

Use the Liquify filter to prepare your car source images for animation in ImageReady

1 Open Car.jpg from the cover disc. Double-click the Background layer thumbnail, and label it 01. Select the Rectangular Marquee Tool [M], and draw a rectangle around the car's radiator. Go to Layer > New > Layer via Copy to place the selection on a new layer. Label the copied layer 02. With the 02 layer targeted in the Layers palette go to Filter > Liquify.



2 In the Liquify interface select the Forward Warp Tool [W]. In the Tool Options section set Brush Size to 158, Brush Density to 30 and Brush Pressure to 11. Stroke the brush upwards a few times on the left of the radiator, and do the same on the right. Click on the Save Mesh option, and save the mesh as CarMesh01. Click OK to apply the changes.

3 Duplicate the filtered 02 layer and label the copied layer 03. Target the 03 layer thumbnail. Go to Filter > Liquify, click Load Mesh, and select the saved CarMesh01 file. This will apply the same Forward Warp strokes to the 03 layer, causing the radiator's corners to move a similar amount of pixels. Re-applying these settings enables you to make the car 'smile' in smooth increments.

4 Repeat the process one more time to create a fourth smiling layer labelled 04. These four frames will be enough to create the illusion of a smiling car, although you could repeat the above steps and create more frames for a smoother sequence. We'll use tweening in ImageReady to create a smooth transition between our four layers.

Web or TV

The walkthroughs in this Focus Guide tend to cover web animation techniques using ImageReady, although, as you'll see from pages 48 and 49, you can also animate content for TV and DVD. If you have CS2 then you can adapt any of the ImageReady walkthroughs in this book, including this one, to create animated content for TV.

Less is more

When we use the Forward Warp Tool to push pixels around in step 2, we set the brush to low Pressure and Density settings; this enables us to use several gentle brush strokes to gradually distort our image's pixels, which allows us to create a more subtle effect.

In the wink of an eye

Use the Liquify filter's Pucker Tool and the Clone Stamp Tool to create a winking headlight

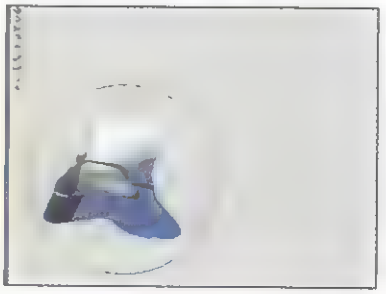
Adding character

You can adapt the techniques demonstrated on this page to bring other inanimate objects to life. Suitable candidates for the Liquify filter treatment include objects such as traditional red letter boxes. The letter slit could be liquified to create a smiling or pouting mouth, and this type of animation could be used for a GIF that opens a blank email window when clicked on.

Tidy up

Once you've used the Clone Stamp to hide unwanted pixels in step 8, tidy up other areas using the Healing Brush Tool [J]. This tool is particularly effective for extending areas that have vague shapes and colours in them, such as the graduated reflections on the car's bonnet, for example.

1 **Target the original background layer (01), and use the Freehand Lasso Tool to draw a selection around the car's right headlight. Go to Layer > New > Layer via Copy. Place the new layer above all the other layers in the Layers palette, and label it Eye.**



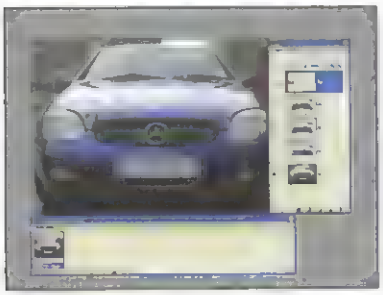
2 **Go to Filter > Liquify, and use the Pucker Tool to make the headlight 'wink' by distorting it. Set the Brush Size to around 450, and Brush Density to 30. Click several times; the tool will make the pixels distort like a liquid being sucked down a plughole, enabling you to make the headlight's metal and plastic move in an organic fashion. Click OK to apply the filter.**

3 **The edges around the distorted Eye layer won't match up with the corresponding details on the background layer, so you need to make them blend. Target the Eye layer thumbnail in the Layers palette, and select the Clone Stamp Tool [S]. In the options bar tick the Aligned and Use All Layers options.**

4 **Hold down [Alt]/[Option], and click to sample a feature from the background layer (such as a curved line or a reflection). Click to spray the sampled pixels over any obvious edges around the liquified headlight. Also sample parts of the headlight, and extend these over background details that don't blend effectively with the Eye layer.**

It's alive!

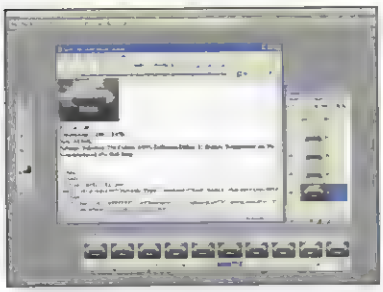
Now we can use ImageReady's animation tools to bring our edited source photos to life



1 **To turn your static Photoshop layers into a moving animation, click the Edit in ImageReady button. Frame 1 will automatically be targeted in the Animation palette. Go to the Layers palette, and turn off all the layers apart from layer 01. In the Animation palette click on the 'Duplicates current frame' button.**

2 **Click the eye icon next to layer 02 to make that layer visible. The corners of the car's radiator 'mouth' will begin to lift. To make the transition between the two frames smoother target Frame 2. Click on the Tween button and select Tween With: Previous Frame. Add 2 more frames. Play the animation, and the movement of the mouth will be more gradual.**

3 **Target Frame 4 in the Animation palette and click the 'Duplicates current frame' button. Make layer 03 visible in the Layers palette. Use the tweening technique to add two more frames between Frame 04 and Frame 05. Repeat this process to create tweened frames that blend the content of layers 03 and 04 together; this will bring the car's radiator to a full smiling position.**



4 **Target Frame 10, and click the 'Duplicates current frame' button to create Frame 11. At Frame 11 make the liquified Eye layer visible. Create another frame, and turn the Eye layer off. Play the animation: the car will 'smile', then 'wink' its headlamp. Go to Image > Image Size, and change the Percentage to 30%. Go to Save Optimized to create an animated GIF.**

Tweening

Tweening between layers that are very slightly different helps create a smooth transition from one frame to the next. If we tweened between layers with a greater difference in the position of their pixels (from layer 01 to layer 04 for example), the viewer would be more likely to notice that the effect was created by dissolving from one frame to another, and the tweened frames would be less effective.

Tinker with time

Unlike many of the animations in this guide, the car animation is not designed to loop. Go to the Looping options at the bottom of the Layers palette and select Once, so that when the animation has played through it will stop. To increase the duration [Shift]+click to select all the Frames, and set their duration to 0.1 sec. Select the winking frame (Frame 11), and set its duration to 1 sec to emphasise the wink.

Chapter 6

WHIPPING UP A STORM IN IMAGEREADY

In this chapter...

- ☐ Use filters to add a heat haze effect to photo
- ☐ Use selection tools to replace skies
- ☐ Create multi-layered animations
- ☐ Combine mixes and cuts

We can use Photoshop and ImageReady to create eye-catching animations that mimic dramatic natural phenomena such as rain, lightning, and even a shimmering heat haze

Throughout history creative people have looked to nature as a source of inspiration, regardless of their chosen artistic medium. Primitive humans' relationship with the animals that they hunted was a matter of life and death, and they recorded this important relationship by daubing images of their prey on cave walls. Many of history's respected painters created their most enduringly popular works by capturing aspects of the natural world on canvas. The artist Joseph Turner supposedly lashed himself to a ship's mast during a storm to get reference material for his creative work; this dedicated act of research led to him paint *Snowstorm*, which featured an impressionistic and chaotic arrangement of paint strokes designed to evoke a ship being dominated by a stormy sea.

Inspired by nature

The idea of using nature as a source of inspiration was embraced enthusiastically by the artists and writers of the Romantic movement, who painted the countryside's ever-changing weather and lighting conditions, and wrote poetry about their relationship with the natural world. William Wordsworth's poem *Daffodils*, in which he encounters a 'host of golden daffodils' by a lake,

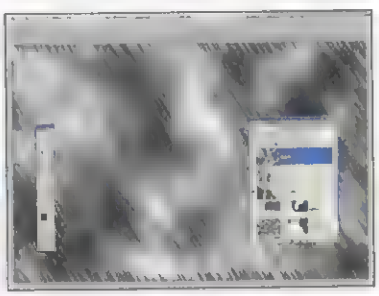
Page 91 *Prepare the source images for a shimmering heat haze animation*

Page 93 *Create dramatic clouds using Photoshop's filters and Transform tools*

Page 94 *Use layer bending modes to animate clouds illuminated by lightning*

Page 95 *Use filters and image adjustments to create lightning bolts*

Page 96 *Create dissolves that make lightning flare up realistically*



Page 97 *Combine a variety of filters to produce layers of animated rain*

is one of the best-known examples of such naturally-inspired work. The legacy of the Romantics has been continued by today's moviemakers, who use nature to underpin the dramatic content of a film's narrative: a confrontation with a killer is more exciting if it's set in a thunderstorm at the movie's climax, while heroes in westerns often ride off into a beautiful sunset, having rid a town of bad guys.

Digital deluge

Technology may have changed since Turner's and Wordsworth's day, but the natural world remains a fantastic source of inspiration for the creative work of digital artists. We can use Photoshop to modify photos taken on an ordinary day, and replace mundane skies with more dramatic ones for example. And, thanks to ImageReady, we can go one step further, and add animated weather effects to our images to create a scene in which rains falls, and lightning does indeed strike twice.

In this chapter we'll push the boundaries of what ImageReady is designed to do to create animated sequences that feature both cutting and dissolving elements, such as the flashes of lightning flaring up inside clouds on page 94. Prepare to take control over the elements…

Animating a heat haze

Turn up the temperature by adding a shimmering heat haze to a source photo

Road.tif
You'll find the source photo we used for our heat haze animation on the cover disc. As well as looking like a suitable location to find a heat haze the scene has lots of detail, which can be distorted by dissolving between filtered layers to create a shimmering effect.

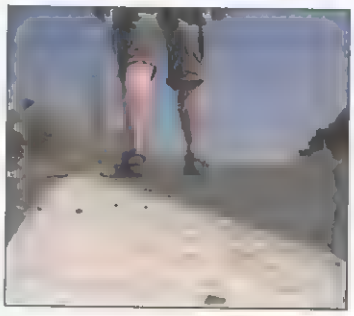
Much of the work we've done in this guide has involved cutting from one frame to another to create the illusion of a moving image. Most of the animations we've produced feature movement created by moving a layer's content from A to B, and adding tweened frames to make the content move across the screen. Other animations have involved creating a moving element by making layers become visible or invisible at particular frames, such as the flickering flame powering the flying missile on page 66.

Another way in which we can use ImageReady to create the illusion of movement is by mixing, or dissolving, between layers. This creates more subtle and realistic movements than you could achieve by simply turning a layer on or off during an animated sequence. Several of the naturally-inspired animations that we'll create in this chapter will employ the dissolve technique, and we can also combine this process with toggling the visibility of layers, to add variety and texture to our animations.

Setting the scene

Select a suitable source photo for the heat haze treatment

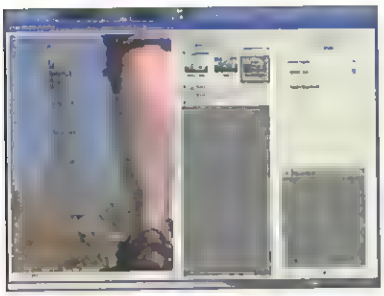
If you live in Britain you're less likely to see heat hazes on account of the inclement weather, but tracking down a suitable source photo to add a heat haze to shouldn't be hard. A common time and place to spot a heat haze is on a road in the summer: the black tarmac absorbs the sun, and radiates waves of heat that cause objects behind them to ripple like a reflections in a liquid. You may not be able to capture a heat haze on camera, but thanks to Photoshop's filters and ImageReady's animation tools you can mimic the effect quite convincingly. In the following walkthrough you'll get to see the dissolve technique in action in ImageReady.



This looks a likely spot for a heat haze. Alternatively, take a photo on an empty beach and pretend it's a desert

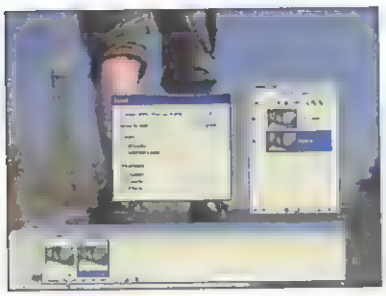
Dissolving between layers

Create the heat haze animation by dissolving back and forth between two filtered layers

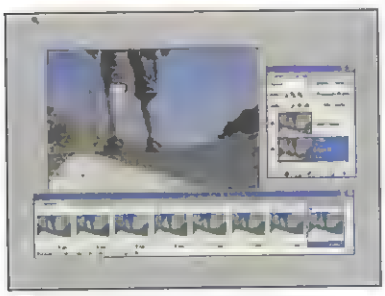


1 Open the file Road.tif in Photoshop, or use your own image. Double-click the layer's thumbnail to unlock it, and drag it to the 'Create new layer' icon at the foot of the Layers palette to duplicate it. These two layers are all you need to create an infinitely looping animation. Select the top layer, and go to Filter > Distort > Ocean Ripple. Set Ripple Size to 14 and Ripple Magnitude to 2.

2 Hide the top layer (Layer 0 copy) and target the layer beneath (Layer 0). Go to Filter > Distort > Ripple again, and enter different Magnitude and Ripple Size values to create an alternative rippling layer. You can now activate Photoshop's Animation palette if you're using CS2, or press [Shift]+[Ctrl]/[Command]+[Y] to open the file in ImageReady.



3 Open the Animation palette, and make sure that only Layer 0 is visible in Frame 1. Click the 'Duplicates current frame' icon, and make Layer 0 copy visible. Click on the Tween icon and choose Tween With: Previous Frame. Add 3 frames and click OK. Now the animation will dissolve from Frame 1 to Frame 2, creating a shimmering effect. Play the animation to test it.



4 At this stage the image mixes from one layer to the other to create the haze effect. However, the sequence then jumps back to Frame 1 with a jolt. Target Frame 5, click the Tween icon, and select Tween With: First Frame. Because the last frame is now the same as the first, the jump from the last frame to the first will be seamless, creating an infinitely looping animation.

Photoshop

Although we talk about using ImageReady's Animation palette in most of our walkthroughs, Photoshop CS2 users should bear in mind that they can also follow the projects entirely within the Photoshop interface. As we've seen, Photoshop CS2's own Animation palette can be used to create larger animations destined for the TV screen.

HeatHaze.gif

Check out the results of our heat haze walkthrough by viewing the animated GIF in your browser. By tweening between two similar frames we create a gentle dissolve that causes a realistic heat haze effect. Our finished GIF is quite large, making this particular project more suitable for a DVD interface or something similar.

The perfect storm

Use a variety of filter effects and animation techniques to create a multi-layered drama

Lightning.gif
Check out our stormy weather animation on the cover disc to see the effect of mixing dissolves and cuts to create different types of movement. The video tutorial will take you through all the steps you need to edit the source photos in Photoshop, create components such as lightning bolts, and animate the different elements in ImageReady.

On the previous page we created an infinitely looping animation by dissolving between two layers. In the next walkthrough you'll create a more sophisticated animated sequence, by using the same technique to make lightning flare up in background clouds, instead of simply flashing on and off. You're also going to add rain to the scene, but rain will look unconvincing if you simply tween between rain layers. Rain needs to be created by turning different rain layers on and off in each new frame; fortunately, you can combine tweens and cuts if you create the animated effects in a specific order.

The first job is to create lightning using tweened dissolves, before turning the tweened frames into new layers in the Layers palette. You can then add elements such as rain to the animation by cutting between different rain layers. Combining mixes and cuts can be a difficult technique to master, so we'll take you through the whole project step by step – and help you acquire some powerful new animation skills.

What you'll create

Create sheets of driving rain by combining the Clouds filter with the Motion Blur filter and rapidly alternating between two frames.

Combine the Clouds and Difference Clouds filters with Image > Adjustments commands to create jagged lightning bolts in minutes.

Use layer blending modes to add interactive lighting effects to your buildings, so that they react to the lightning bolts.

Use ImageReady's Animation palette to trigger lightning strikes, flaring clouds and driving rain in a single animation.

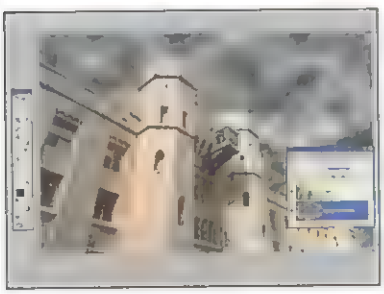
Sky replacement

Edit your source image to replace an calm sky with a more dramatic cloudscape

1 Open Castle.jpg from the cover disc. This type of gothic subject matter will look great as part of a stormy scene, but we have to prepare the image before we can animate it. To animate the clouds we need to create a separate sky layer, and we'll add a more dramatic skyscape at the same time. Double-click the Background layer's thumbnail to unlock it, and label it Castle.

2 Select the Magic Wand Tool [W]. Set its Tolerance to 32, and tick Contiguous so that it only adds adjacent pixels to the selection – this stops you accidentally selecting parts of the building that have a similar colour to the sky. Click to sample the sky; hold down [Shift] and click to add any parts of the sky missed by the initial selection. Hit [Backspace] to delete the sky.

3 Press [Ctrl]/[Command]+[D] to deselect the marquee created with the Magic Wand. Click on the 'Create new layer' icon at the foot of the Layers palette, select the new layer and place it behind the castle layer. Go to Filter > Render > Clouds to fill the layer with a fractal cloud pattern, and label the layer Background Clouds. The clouds look a little flat, so we'll fix that next.



4 Zoom out so that you can see the edges of the document. Go to Edit > Transform > Perspective. Drag the top-left handle of the transform box to the left to distort the pixels on the Background Clouds layer. By stretching and enlarging the pixels near the top of the image you'll give the clouds a sense of depth, as they appear to recede into the distance.

Tidy up

It's quite possible that the Magic Wand Tool will miss a few sky pixels when you make your selection in step 2 – mop up any strays using the Eraser Tool [E].

Full Screen Mode

When you're transforming the clouds in step 4 give yourself more room to work by pressing [F] to switch to Full Screen Mode. This will enable you to zoom out of the image, and see the transform box's selection handles more clearly as you distort the cloud layer.

Lights in the sky

Use blending modes to make your clouds flare as if illuminated from within by lightning

CGI

When most people hear the term CGI (Computer Generated Imagery) they think of 3D animated dinosaurs, or other such spectacular effects. As our clouds are created entirely within Photoshop they count as CGI too, since they're produced within the digital realm.

Lightning.mov

Check out our Photoshop training video on the cover disc to see a practical demonstration of how to apply the Photoshop and ImageReady techniques used in this chapter. Seeing the animation being created from scratch will give you a valuable insight into the production process.

1 **Drag the Background Clouds layer on to the 'Create a new layer' icon to duplicate it, and rename the duplicate layer Cloud Flare. Set this layer's blending mode to Color Dodge – this will cause the lighter parts of the layer to flare up dramatically, and this is the key to creating our lightning illumination effect.**

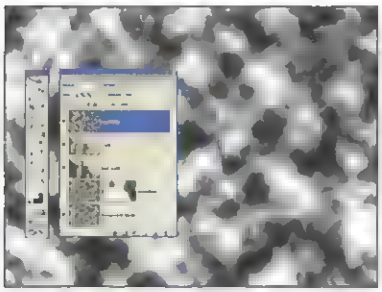
2 **The burnt-out flaring effect is a little over the top, as it affects the entire layer. Click the 'Add a mask' button to add a mask to the Cloud Flare layer. Set the foreground colour to black. To localise the lightning bursts select the Gradient Tool [G]. Open the Gradient Editor, and choose the Foreground to Transparent gradient. Click OK, and select Radial Gradient from the options bar.**

3 **Click and drag to draw several radial gradients on the Cloud Flare layer's mask. This will make parts of the layer become transparent, which will reduce the amount of cloud flaring. Click the eye icon to turn the Cloud Flare layer on and off: this will give you a rough preview of how the clouds will behave when we animate them. Parts of them will flare up, as if illuminated.**

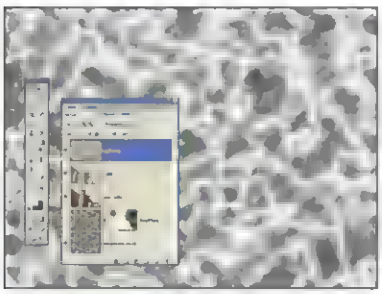
4 **To make the building interact with the lightning bolts duplicate the castle layer. Call the copied layer Dark Castle. Go to Image > Adjustment > Levels. In the Levels dialog change the Shadow level to 120 to make the shadows look even darker. Click OK. Place the Dark Castle layer underneath the original Castle layer, and set the Castle layer's blending mode to Overlay.**

Bolts from the blue

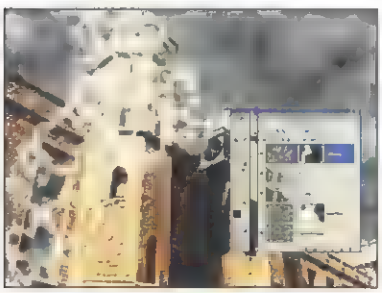
Use a combination of Photoshop filters to create jagged bolts of lightning



Create a new layer in the Layers palette, and label it Lightning bolt. Go to Filter > Render > Clouds to fill the new layer with a fractal cloud. You'll be able to harvest a suitable lightning bolt from this cloud layer after a bit more filtering. Go to Image > Adjustments > Equalize to increase the contrast between the cloud layer's shadows and highlights.



With the Lightning layer still targeted go to Filter > Render > Difference Clouds – this creates a cloud pattern with erratically shaped dark lines threaded throughout the texture. To turn these dark lines white go to Image > Adjustments > Invert. The white lines should now look like bolts of electricity.



Go to Image > Adjustments > Equalize again to increase the contrast in the Lightning layer. Set the Lightning layer's blending mode to Screen. The darker parts of the cloud layer will vanish, leaving lots of potential lightning bolts. Add a layer mask to the Lightning layer, and use a soft black brush to remove most of the lines until you've isolated a small section of lightning.

Place the Lightning layer beneath the two Castle layers. Use the Move Tool to position your remaining lightning discharge so it's striking between the two towers of the source image. To add some colour to the lightning go to Image > Adjustments > Hue/ Saturation, and tick the Colorize box. Drag the Hue slider to change the colour of the bolts, and increase the Saturation.

Mask or erase?

In step 11 we use a black brush on a layer mask to get rid of most of the lines on the layer. Alternatively, you could erase the unwanted bolts using the Eraser Tool. The advantage in using a layer mask is that you can restore hidden areas of the layer by changing the brush to white, so you have more creative control.

Different hues

When adjusting the Hue in step 12 we chose a value of 243 to add a bluish tinge to the edges of our lightning bolts, but you can create any colour you like by experimenting with the Hue slider. A hue value of 99 will add a greenish glow to the edges of your lightning, while a hue of 0 will turn your lightning bolts a dramatic and vibrant red.

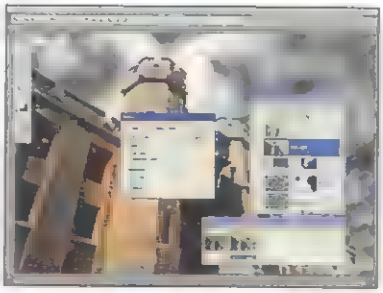
Into ImageReady

Take your layers into ImageReady, and make the lightning flare up inside the clouds

Back and forth

Although we still have to create the rain elements, we can switch to ImageReady and start the animation process. As we've seen, Photoshop and ImageReady are very flexible, and you can jump back and forth between the packages to create and animate new content at any stage in the production process.

1 **Click the Edit in ImageReady button, and in ImageReady open the Animation palette. At Frame 1 turn off the Castle, Lightning and Cloud Flare layers, so that only the Dark Castle and Background Cloud layers are visible. This creates the scene before any lightning activity.**



2 **Click the 'Duplicates current frame' button, and make the Cloud Flare layer visible. Play the animation – at this stage the lightning in the clouds cuts in abruptly. Select Frame 2. To make the clouds flare up more realistically, click on the Tween icon. In the Tween dialog set Frame 2 to Tween With: Previous Frame. Add 4 Frames. Click OK. The clouds now flare up gradually over 6 frames.**

Scale it down

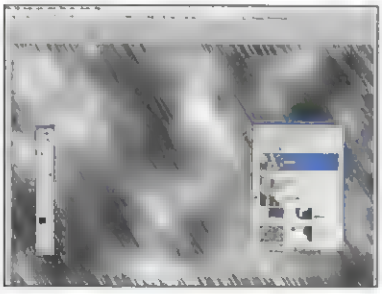
Our castle source image is large enough for you to create a full-size animation for a TV screen. If you have CS2 you can follow the steps on this page using Photoshop's Animation palette instead of switching to ImageReady, enabling you to output your animation to a camcorder for playback on a TV monitor (see page 48 for more details). To create a smaller animated GIF you can scale down the image size at any time.

3 **To make the lightning in the clouds dissipate gradually target Frame 6. Click the Tween icon, and select Tween With: First Frame. Add 4 frames. This will add tweened frames that make the lightning fade. As the last frame in the Animation palette matches the first you can set the animation to loop forever; the clouds will flare up, then return to their original state.**

4 **To make the lightning illuminate the tower target Frame 6. Make the Lightning layer visible in the Layers palette, so it flashes on at this frame. To make the lightning bolt interact with the castle target Frame 7. Make the Castle layer visible – the Overlay mode will cause the highlights on the castle to over-expose. Keep the Lightning layer visible at this frame too.**

Just add water...

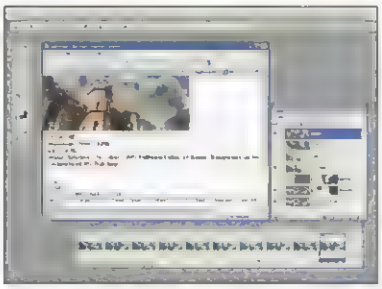
To finish off, create sheets of driving rain, and add them to your dramatic animated scene



Target Frame 1. Click Edit in Photoshop. Create a new layer called Rain01. Go to Filter > Render > Clouds to fill the layer with texture. Go to Filter > Noise > Add Noise. Set Amount to 100%, Distribution to Gaussian and tick Monochromatic. Turn the noise into rain-like streaks by choosing Filter > Blur > Motion Blur. An Angle of -59 will create slanting streaks. Set Distance to 99 pixels.

To show the background layers through the rain set the layer's blending mode to Overlay, and reduce its Opacity to 71%. Repeat the previous step to create a new rain layer called Rain02. Change the angle of the Motion Blur by a few pixels, and increase the Distance to 110 to create a slightly different rain layer. This will enable you to cut between the two rain layers in ImageReady.

Click the Edit in ImageReady icon. Notice that both rain layers are visible on every frame in the Animation palette. Target each frame, and change the visibility of the Rain layers so they alternate. On Frame 1 make Rain01 visible, and Rain02 invisible. Swap the Rain layers' visibility around for Frame 2. Repeat this process for the whole 10 frames. Play the Animation.



The rain will flicker, lightning will strike and the clouds will flare up. You have an animation that mixes dissolves (the flaring clouds) with cuts (the lightning and driving rain). To make the animation more suitable for playing on the web go Edit in Photoshop. Use the Crop Tool to create a banner-shaped image. Go to Image > Image Size and change the Width to a lower value, like 500 pixels.

Increasing contrast

To increase the contrast of the rain layer in step 17 target the Rain01 layer. Go to Image > Adjustments > Equalize. In the Equalize dialog tick the radio button labelled 'Equalize entire image based on selected area.' Click OK. This will make the lighter parts of the rain stand out.

More rain

When you play the finished GIF you'll notice that two different rain layers are all it takes to create the illusion of falling rain. This helps to keep the file size of the final GIF down. If you're creating an animation for TV (such as a looping animated background for a DVD menu, for example), you can add more rain layers to create smoother, more realistic rain.

Chapter 7

CREATING ROLLOVERS FOR YOUR WEBSITE

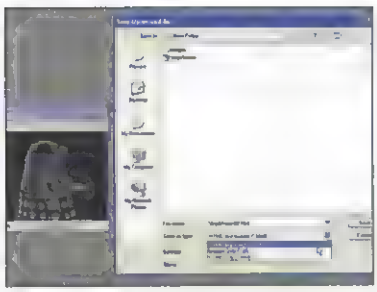
Make your website genuinely interactive by incorporating animated GIFs into the design of a page. You can then use ImageReady's rollover tools to trigger animations

As you've worked through this Focus Guide you've built up a repertoire of techniques and skills that will enable you to create all sorts of animated GIFs. You can animate simple logos so they zoom in and out or rotate, as well as creating photo-realistic moving characters, and terms such as tweening and looping should now be part of your everyday vocabulary.

All the animated GIFs you've learned to create can be embedded into any web page as standalone graphics. They'll help to draw the eye of passing visitors, encouraging them to take a closer look at your site. However, we can make GIFs do much more than just pull in the punters: by making them react to the presence of a visitor's cursor, your animated GIFs can add a valuable interactive dimension to your site.

Interactivity

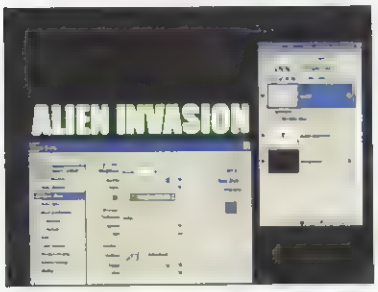
In this chapter we'll go a step further than simply creating animated GIFs, and demonstrate how you can use your newly-acquired skills to add interactive buttons to your web pages. Instead of being mere online eye-candy, GIFs can also have a practical function – they can serve as animated links to other pages of your site. When a visitor rolls their cursor over a button, or even part of



Page 100 *Save your interactive GIFs, and ImageReady will generate HTML files*

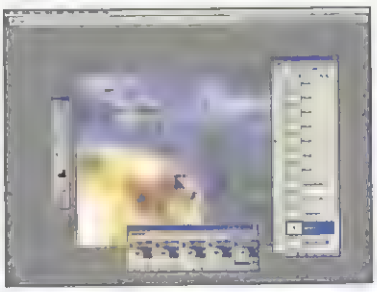
Page 101 *Analyse a rollover, and learn about different rollover states*

Page 102 *Use Photoshop to create the components for a animated rollover GIF*



Page 102 *Modify text with layer styles to create a sci-fi-style animated logo*

Page 105 *Modify a brush's attributes to create a galaxy of stars in seconds*



Page 104 *Add multiple animated rollovers to a single page design*

a larger interface element, we can make the action trigger hidden GIFs that are embedded into the design of the web page. In our main walkthrough in this chapter you'll learn how to create a single home page that contains two animated rollover buttons, which send bursts of flame shooting out from the surface of a sun, and cause stars to spin into spiral-shaped galaxies.

New dimensions

We'll ease you gently into the concept of interactivity, by showing you how to create a simple rollover button, the 'state' of which changes when the cursor passes over it. Then we'll move up a gear, and show you how you can trigger multiple frames of animation that play whenever a visitor's cursor passes over a particular section of a web page.

You'll also discover how to slice up your web page to mix animated GIFs and static images together in one HTML document. You'll be able to create an interactive web page entirely within ImageReady, without needing to know anything about HTML coding. Being able to trigger animated GIFs that link to other web pages provides visitors to your site with an entertaining and immersive experience, so prepare to get interactive with ImageReady!

Creating HTML

Put your animated GIFs online for the world to see – without having to know HTML

Output settings
For more information on HTML output settings, check out page 93 of Photoshop Focus Guide issue 10, which you'll find on the cover disc. This page examines HTML, and its relationship with GIFs, in more detail.

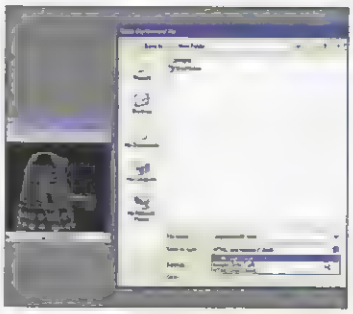
Throughout this Focus Guide we've shown you how to create animated GIFs that you can share with the world by placing them on the internet. GIFs are just as easy to add to a web page as JPEGs are: you simply embed the name of the GIF in the body of your web page's HTML code. A typical link to an animated GIF might read <image src= "images/StopMotion.gif" width="160" height="131" alt+"">.

However, don't worry if HTML is a foreign language to you, as ImageReady will generate all the HTML code that you need in order to get your work online, as well as placing the GIF in a ready-made folder called Images. To generate HTML along with your GIF simply go to File > Save Optimized As to bring up a dialog box with various saving options. Then open the pull-down menu of the dialog's Format option, and choose HTML and Images (*.html). Click on Save, and ImageReady will create your GIF, a folder for it to reside in, and an HTML document that provides a link to the GIF.

GET ONLINE

Upload a GIF straight to the web, or add it to an existing site page

Once you've followed the steps above to create your GIF and HTML code you can upload the Images folder and the HTML document to your web host. Make sure the files stay in the same directory, as the HTML document is targeting the GIF in the Images folder; if the Images folder is placed elsewhere the HTML file won't be able to locate your GIF. Tell people the URL of your site, and the name of the HTML document, and they'll be able to access your GIF. Alternatively, add your GIF to a web page using a package such as Dreamweaver or GoLive: these will read the HTML generated by ImageReady, or you can simply import the GIF into existing templates.



ImageReady creates a folder containing your GIF, and an HTML document that links to the GIF

Create a simple rollover

Create a simple yet effective interactive GIF that changes state when a cursor passes over it

Rollovers are popular ways of indicating that a particular element on a web page is actually a button that's just begging to be clicked. Many rollover GIFs contain only two layers, and the visibility of these layers is defined by two 'states'. The 'Normal' state describes how the GIF looks on the page, and when someone passes their cursor over the GIF this triggers the 'Over' state, which turns one layer off and reveals the layer below.

In ImageReady use the Type Tool to create a text label for a button. Click on the 'Add a layer style' icon at the foot of the Layers palette, and select Pattern Overlay. Choose a pattern for your text: this is what your GIF will look like in the normal state. Now duplicate the text layer, and edit the Pattern Overlay effect on the copy layer, for example by scaling up the pattern – this is the layer that will be visible in the Over state, when the cursor moves over the GIF. You can use all sorts of tools and filters to make each text layer change – by adding a blur to the Over state's layer, for example.

Rollover.mov

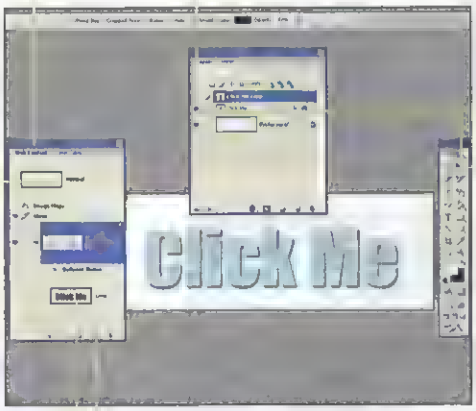
Creating a rollover GIF is a simple affair, but if you're in any doubt about how to do it check out this short training movie on the CD. It's important to get your head around the way in which a simple rollover button works, so that you can build on this knowledge to create more complex animated rollovers that contain multiple frames.

Creating a rollover button

To turn two layers into a rollover GIF go to Window > Web Content. This opens the Web Content palette.

The top thumbnail indicates which layer in the Layers palette will be visible in the Normal state.

This thumbnail indicates the layer that will be visible in the Over state when a cursor moves over the GIF.



Target the Over thumbnail in the Web Content palette, and choose which layer you want to be visible when a cursor moves over the GIF.

Target the Normal thumbnail in the Web Content palette, and choose which layer you want to be visible in the Layers palette.

Click on the 'Create rollover state' button. This will add two new thumbnails to the Slices section of the palette.

Animated rollover components

Here's how to create a more complex rollover button that plays multiple frames of animation

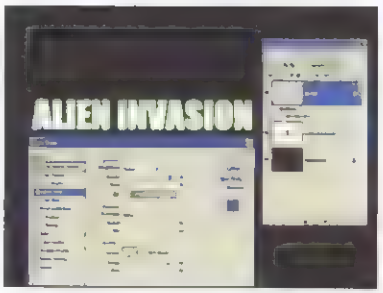
Vector v raster

Flash users will be familiar with vector text, and will appreciate the fact that it enables them to create animated scaling graphics that have a tiny file size. Photoshop users can create text as a vector graphic, but if you want to add filter effects to text you need to turn it into a bitmap – this is what we do in step 2, when we rasterise our vector text.

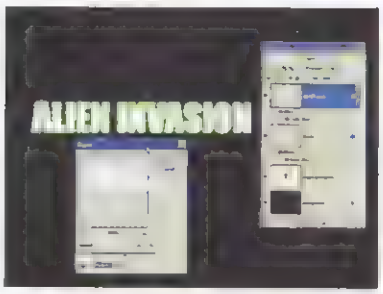
More rollovers

In theory you could take many of the creative animation projects in this guide and turn them into animated rollover buttons. For example, the source files for the podcast icon created in Chapter 4 could be edited so that the circular radio waves only emit from the logo when the cursor passes over it, rather than having the GIF loop permanently.

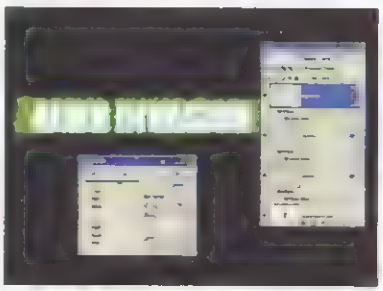
1 **We'll create an animated rollover to adorn the splash screen of a website: when the cursor passes over it the text will glow and ripple, like the titles of a sci-fi B-movie. Create a Photoshop document at a size of 800x600 pixels – we can crop and scale the document down later. Use the Horizontal Type Tool to create a text layer; we chose the Impact for its chunky letters.**



2 **Duplicate the text layer. Right-click ([Ctrl]+click) on the text layer's thumbnail to open a pop-up menu, and choose Rasterize text. Label the layer Glow. Click on the 'Add a layer style' icon at the foot of the Layers palette, and select Outer Glow. Choose a green colour for the glow, and set Spread to 6% and Size to 9 pixels. Click OK to apply the effect.**



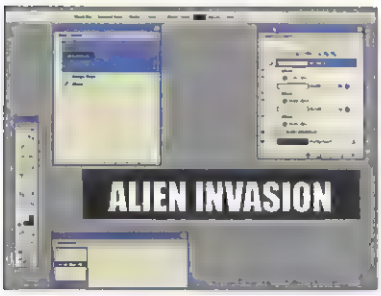
3 **Duplicate the Glow layer, and select the copied layer. Label it Glow 2. Go to Filter > Distort > Ripple. In the Ripple dialog box set Size to medium and Amount to 216 to distort the letters. We can use ImageReady's Web Content palette and Animation palette to turn these static layers into an animated rollover GIF.**



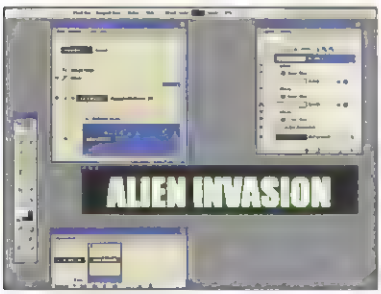
4 **Duplicate Glow 2, and call the new layer Glow 3. To make the text flare up at the end of the sequence go to Filter > Blur > Radial Blur. Set Amount to 67 and Blur Method to Zoom. Set Quality to Draft, as this will create a simpler blur texture, enabling us to create a small GIF. Click OK to apply the filter, and save the document as AnimatedRollover.tif.**

Animate the components

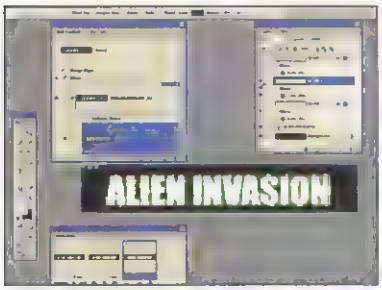
Use ImageReady's Web Content palette to create an interactive animated rollover graphic



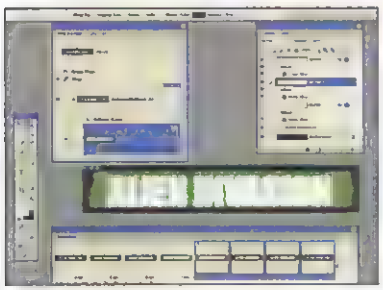
1 Crop the image so the edges of the largest layer are still visible. Click the Edit in ImageReady icon in Photoshop to open your layered document in ImageReady. Open the Web Content palette, and the Animation palette. Turn off all the layers in the Layers palette except the original text layer and the background: this will form the Normal state of the rollover.



2 Click the 'Create rollover state' button in the Web Content palette, and click the Over thumbnail in the Rollover States section. Click 'Duplicates current frame' in the Animation palette to create Frame 2. Go to the Layers palette and turn on the first Glow layer. Click on the Preview Document button and move the cursor over the logo: it will flicker between the two frames.



3 Click the Preview Document icon to go back to ImageReady's editing mode. To add extra frames to the rollover select the Over thumbnail in the Web Content palette. Select Frame 2 in the Animation palette and duplicate it. Turn on the Glow 2 layer, which features the rippling version of the logo. Preview the rollover: the text will glow green when the cursor moves over it.



4 Repeat the previous steps to add a fourth frame, and turn on the Glow 3 layer: this will make the logo pulse when the cursor passes over it. At this stage the GIF cycles through the glowing layers and jumps back to the original non-glowing text. You can modify the animation by selecting and duplicating the four frames, then reversing them to create a gently pulsing effect.

Animated Rollover.html

Interact with our animated rollover GIF by accessing it from the cover disc. Look in the GIFS folder – inside it you'll see another folder called Animated Rollover. Inside that is an HTML file called AnimatedRollover.html. Double-click on the HTML file to view and interact with the rollover in your browser.

Saving a rollover

Up until now we've saved our animated GIFs by going to File > Save Optimized As, and selecting the Images Only (.gif) option. Because animated rollovers are interactive you need to save them using the HTML and Images (*.html) option – this creates a folder for the GIF's components, and an HTML file that describes how the GIF behaves.*

Multiple animations

Pack a web page full of interactive animated rollovers to enhance your visitors' experience

SpaceInterface.html
To see our animated interface in action, and interact with its rollovers, click on the SpaceInterface.html file. This will stitch all the sliced still images and animated GIFs together into a unified graphic in your browser, and trigger the appropriate rollover animations when the cursor encounters them.

On page 101 we explained how ImageReady's Web Content palette can be used to create a simple rollover that changes from one graphic to another when the cursor moves over it. We then moved things up a notch to show how rollovers can either contain a single change of image, or trigger multiple frames of animation. In the following walkthrough you'll build on your existing skills, and learn how to create an interactive web page containing multiple rollovers, each of which will burst into life when the cursor rolls over them to indicate links to other parts of the site.

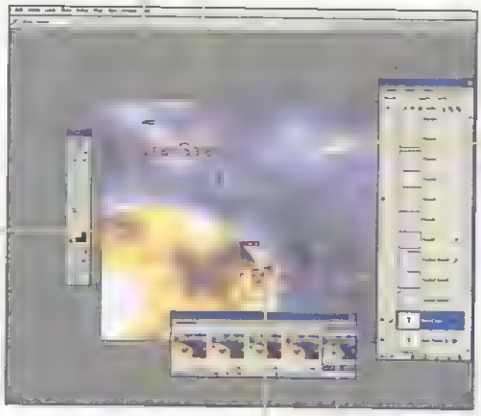
You'll also learn how to integrate multiple rollovers seamlessly into the design of your web pages. By slicing up the interface into chunks you'll be able to mix smaller animated GIFs with larger still images, and keep the file size of your web page to a minimum. The great thing about ImageReady is that it will slice up the design to separate the animated sections from the static, leaving you to get on with the business of being creative.

Creating the interface

ImageReady slices up your image, and generates an HTML file to fit the separate animated GIFs and still images back together when viewed online.

The walkthrough will show you useful techniques and tips for creating interface content, such as using blending modes and filters to produce this fiery texture.

The presence of a cursor will trigger animations, such as a burst of solar flare from this integrated GIF.



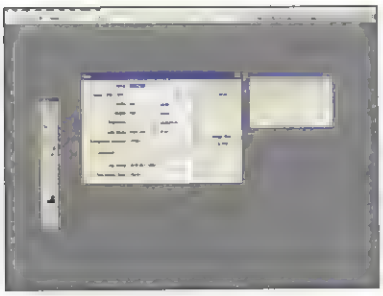
For a link to a page on galaxies we'll show you how to create a an animated rollover that turns a stream of stars into a spiral shape.

You'll learn how to modify a brush tip to scatter stars around the interface with a few sweeps of Photoshop's Brush Tool.

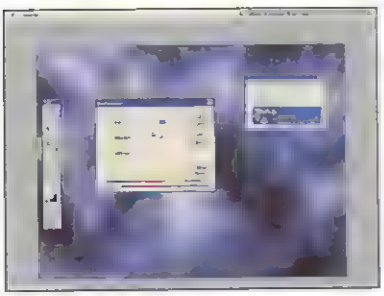
ImageReady's Animation palette is used to create the two animated rollovers contained in the page.

Create your components

Produce some out-of-this-world graphics for the site's main interface in Photoshop

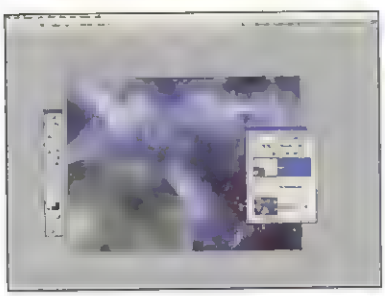


1 In Photoshop go to File > New, and create a file that's 800x600 pixels: this is a typical size for a web page. We'll sketch out the design for the main graphic, before adding extra layers that will be used to create animated rollovers. The main graphic will consist mainly of sliced JPEGs, and the smaller animated GIFs will be embedded seamlessly into the page.



2 We'll start by creating an interstellar background of cloudy nebulae. Select the Background layer in the Layers palette and go to Filter > Render > Clouds to fill the layer with a greyscale texture. To add colour to the clouds go to Image > Adjustments > Hue/Saturation. Click on Colorize, and, for a cool intergalactic blue, set the Hue to 243.

3 Give the background more depth by blurring it a little. Go to Filter > Render > Gaussian Blur. Set the Radius to 2.0 pixels, and click OK to apply the filter. Blurring the background removes detail from the clouds; this helps to concentrate the viewer's focus on the foreground details, like the huge sun we'll create on the following page.



4 Create a new layer called Star Background, and select the Brush Tool [B]. Initially, the brush will spray a solid line. To get it to spray stars open the Brushes palette, and click on the word Scattering to access the Scatter attributes. Drag the Scatter slider up to 891%, and tick the Both Axes box. You can now use the brush to spray star-shaped dots around the page.

Full of stars

Once you've modified your brush tip attributes in step 4 you can populate the screen with stars in seconds. Vary the size of the stars by using the left square bracket key '[' to shrink the brush, and the right bracket key ']' to increase the brush size.

Resolution

The default resolution for most Photoshop preset file sizes is 72dpi, and this is the resolution your site interface will be viewed at. However, you might find it hard to design at such a low resolution, as the graphics will look quite small on your monitor. Feel free to set your file's resolution to 144 pixels/inch (which roughly equates to dpi) in step 1. You can shrink it back to 72 at the end of the creative process.

Bring me sunshine

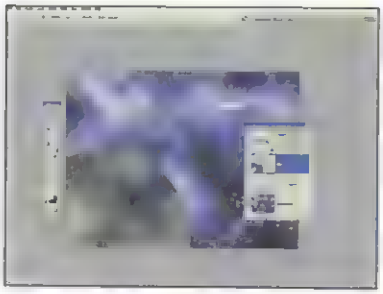
Create a massive glowing sun with a bit of help from Photoshop's layer blending modes

Full Screen ahead

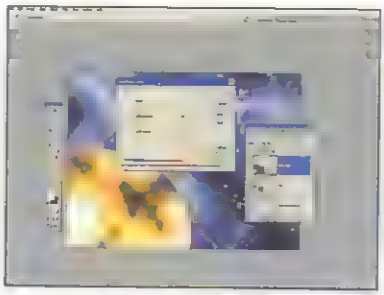
When drawing the sun in step 5 you'll find it easier to create a large circle if you can draw outside the edge of the work area. Press [F] to go to Full Screen Mode with Menu Bar: this will hide any background desktop clutter, and place a solid grey background around the work area – you can easily extend the circular shape of the sun into this area.

Random textures

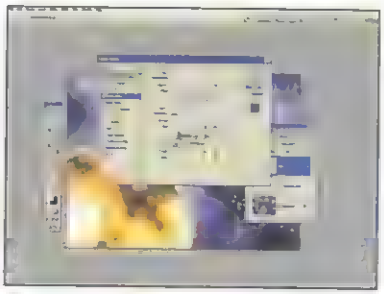
When creating the cloud texture for the sun's surface you'll want to have patches of light and dark for a bit of variety. Every time you apply the Cloud filter it generates a random cloud pattern, so keep pressing [Ctrl]/[Command]+[F] to re-apply the filter until you're happy with the pattern.



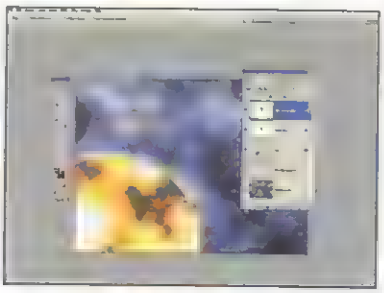
5 Create a new layer called Sun, and select the Elliptical Marquee Tool [M]. To keep the sun perfectly circular hold down the [Shift] key as you draw with the tool. Just as the physical universe formed from clouds of interstellar dust, so our animated universe will evolve from the ubiquitous Clouds filter. Go to Filter > Render > Clouds to fill the circle with a cloudy texture.



6 Use the technique described in step 2 to colour the Sun layer; a Hue of 58 will add a suitably yellow tint to the clouds, and for a more intense colour set the Saturation to 39. Duplicate the Sun layer, and set the copied layer's blending mode to Color Dodge to create a fiery surface for your sun. Add a red tint to parts of the surface by colouring the duplicated layer with a Hue of 0.



7 Target the Sun Copy layer, and go to Layer > Merge Down: this flattens both Sun layers into a single layer, but maintains the texture created using the Colorize option and the Color Dodge blending mode. To give the sun a glow target the Sun layer. Click the 'Add a layer style' icon, and choose outer Glow. A Spread of 13% and a Size of 38 will create an effective glowing halo.

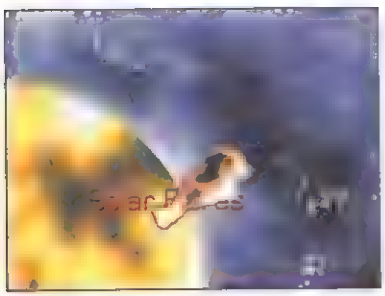


8 Before you create the components for the animated GIFs, add some text to the image to encourage visitors to click on the appropriate sections. We chose the elegant Eurostile font, and coloured it red to contrast with the yellows and blues of the background. A hint of drop shadow courtesy of Photoshop's layer styles makes the text even more legible.

Add animation components

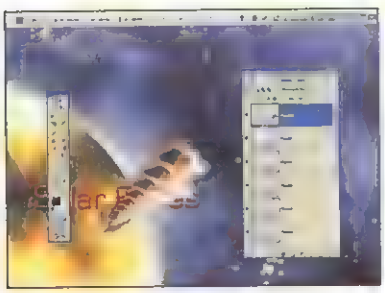
Create graphic elements that you can use to add animated rollovers to the site's interface

We'll now create the main component of an animated solar flare. Create a new layer called Flare. Select the Freehand Lasso Tool [L], and set its Feather option to 4 to give it a soft edge. Draw the outline of a plume of fire emanating from the sun's surface, and fill the selection with a cloud texture. To create a more contrasting texture go to Image > Adjustments > Auto Levels.



To turn the grey clouds into a plume of fire use the same layer blending and colourising techniques you used on the sun's Clouds filter layers. Increase the intensity of the solar flare by adding a higher value to the Lightness slider in the Hue/Saturation dialog box. Merge the two flare layers together to create a single jet of flame.

To create the components for several frames of the solar flare rollover duplicate the Flare layer. Go to Edit > Transform > Scale. A bounding box with selection handles will appear around the flare. Drag a corner handle, and scale the layer down until it's 80% of its full size – check the Width and Height fields in the options bar to see the precise percentages.



After you've scaled down the Flare layer by 80%, duplicate that layer and scale the copy down by the same amount. Repeat this process until you have seven differently sized Flare layers. Re-label the layers Flare 01 to Flare 07, placing Flare 01 – the smallest flare – at the top of the layer stack, and the rest in descending order.

Transformation tip

When you scale a selection using the Transform options the object is scaled around a central reference point, and this makes the object scale inwards towards the centre of the bounding box. When you scale the Flare layers it's helpful if they scale towards the bottom-left corner of the box. You can make this happen by clicking on the bottom-left square in the Reference Point Location grid, which is located at the left of the options bar.

Transformation tip 2

There's another, more intuitive, way to change the reference point of the Transform bounding box. Click on the reference point at the centre of the box, and drag it to a new location by moving the cursor. The selected object will then scale around the new location of the reference point.

Get interactive

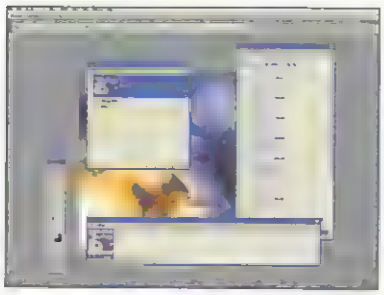
Jump to ImageReady, slice up the image and turn the Flare layers into an animated rollover

Preview it

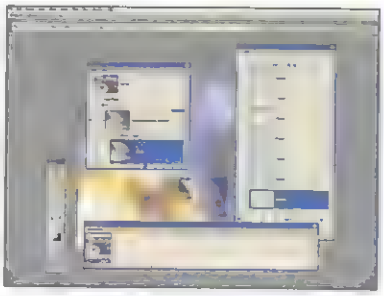
Once you've modified the frames for the Over state of your animated rollover, press [Y] to test the rollover: this will take you into ImageReady's Preview Document mode. The solar flare won't be visible until you move the mouse over the relevant area of the interface and trigger the animated GIF. Press [Y] again to continue editing in ImageReady.

Stock photos

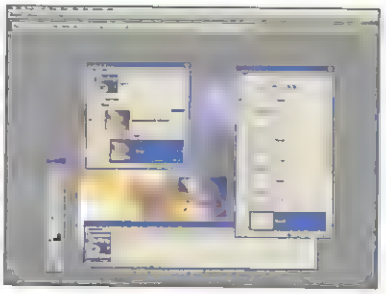
To get inspiration for your interstellar website's components you could trawl through Google's image search engine. If you have CS2 try using Adobe Stock Photos as an alternative resource, as this lets you download preview versions of images that you can use as reference material. Open Adobe Bridge, and select Adobe Stock Photos from the Favorites pane.



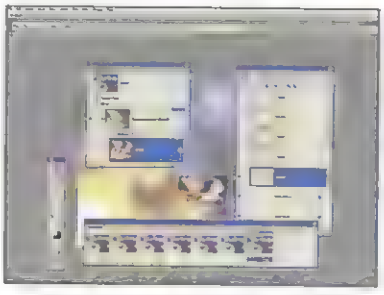
1 **To turn your Flare layers into an animated rollover GIF that's fully integrated with the rest of the image, click on the Edit in ImageReady icon to jump from Photoshop to ImageReady. Make sure that the Web Content and Animation palettes are visible. Turn off all the Flare layers, so that no flare is visible in the GIF's Normal state.**



2 **Target the largest Flare layer (Flare07), and click on the 'Create layer-based rollover' button at the foot of the Web Content palette. This slices the image up into sections, including a chunk that will contain our animated solar flare GIF.**



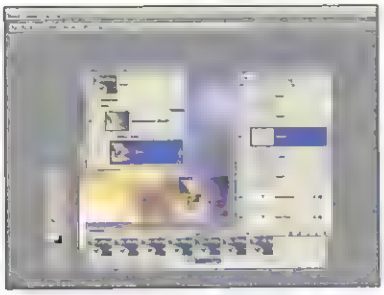
3 **Click on the Over thumbnail in the Web Content palette. Target Frame 1 in the Animation palette, and make Flare01 (the smallest flare) visible in the Layers palette. When the cursor rolls over the flare GIF, the smallest flare will appear at Frame 1 of the animated sequence.**



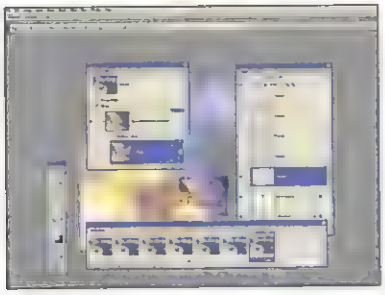
4 **Click on the 'Duplicates current frame' button to create Frame 2 of the rollover animation. Turn off the Flare01 layer, and turn on Flare02. A larger version of the flare will appear at Frame 2. Repeat the process to create seven frames in the Animation palette that show the seven Flare layers turn on and off, to create the effect of the flame shooting out from the sun's surface.**

Modify the animation

Fine-tune the behaviour of your solar flare GIF, then add another rollover to the interface

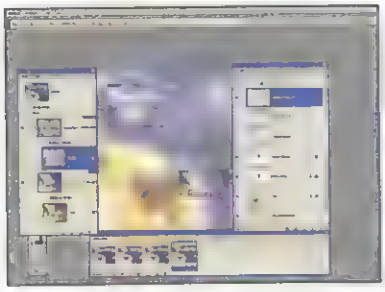


At this stage the flare repeatedly shoots from the sun when the cursor rolls over it. We'll edit the rollover to make the flare fade as it increases in size, then dissipate. Make sure the Over thumbnail is selected in the Web Content palette, so you can see all the frames. Select Frame 5 in the Animation palette. Select Flare 05 in the Layers palette, and change its Opacity to 90%.



Target Frame 6, and change the Opacity of the Flare06 layer to 70%. You'll be able to read the text beneath that particular flare. Target Frame 7, and change the Opacity of Flare07 to 30%. Press [Y] to preview the rollover. When the cursor moves over the solar flare GIF jets of fire shoot up from the sun's surface, and then fade out, in a repeating cycle.

Click the Edit in Photoshop button, and select the Star Background layer. Use the Elliptical Marquee Tool to select a cluster of stars under the Spiral Galaxies text. Go to Layer > New > Layer via Copy to place these stars on a new layer. Select the stars with the Elliptical Marquee Tool, and Filter > Distort > Twirl them at a setting of 65 degrees. Place the twirled star layer on top of the text layer.



Create two more twirled star layers, then switch to ImageReady. Target the third twirled star layer in the Layers palette. Click the 'Create layer-based rollover' icon. Target the Normal thumbnail, and hide the three twirled star layers. Target the new rollover's Over thumbnail. Add three new frames to the Animations palette that play the three twirled star layers in order.

Timing

Our solar flare rollover flickers rapidly at the default duration of 'No delay' per frame. Slow down the animation a little by [Shift]+clicking on the first and last frames in the Animation palette to select all the frames. Change the duration to 0.1 sec on one of the frames, and all the other frames will change to this duration as well.

In the frame

If you can't see the solar flare frames you're editing in the Animation palette, make sure you're clicking on the GIF's Over thumbnail in the Web Content palette. The rest of the slices in the main interface are only represented by one frame in the Animation palette, as they're static JPEGs.

Chapter 8

CREATING AN ANIMATED HOME PAGE

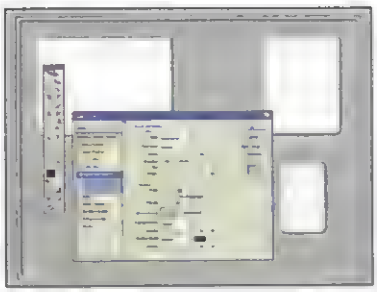
In this final chapter we'll combine many of the tools and techniques we've covered to create a sophisticated interactive home page that features a variety of animated elements

By working through this Focus Guide you'll have built up a repertoire of skills that you can call on to create sophisticated web page animations. As well as providing links to other pages on a site, GIFs can also entertain the user; this will lead to increased traffic, as well as impressing visitors with your design skills. In this chapter we'll draw on the techniques we've explored, and develop them further as we create a high-tech 'spy' home page.

Pay attention 007

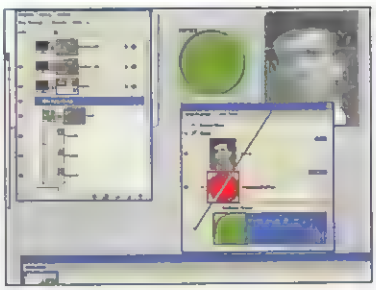
Our site will feature an animated face scanner graphic, and a fingerprint icon that animates when it's rolled over, as if scanning the visitor's fingerprint. You'll also create a CCTV camera feed that displays cycling surveillance images. We'll show you how to modify source images in Photoshop to create the CCTV-style footage, as well as ways to animate the fingerprint scanner using tweening and blending modes.

The gadget-themed interface will be packed with animated GIFs. Some of these will be interactive, so that the user can click on them to trigger an animation, as well as providing links to the rest of the site. Other animated GIFs will cycle through frames on a loop without being interactive, to add visual

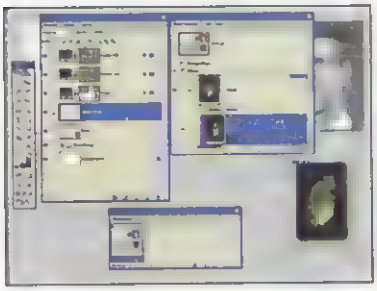


Page 113 *Use the Bevel and Emboss layer style to create a 3D-style interface*

Page 115 *Manually slice your design's components, and label your slices*

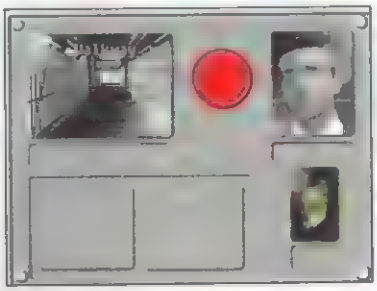


Page 115 *Create a remote rollover that triggers an animation elsewhere*



Page 116 *Create a sophisticated rollover fingerprint scanning effect*

Page 118 *Modify source photos to create a CCTV-style video animation*



Page 120 *Test your animations by playing them in a browser window*

interest to the page. You'll also create a remote rollover button that activates an animation in another part of the interface – a great way to enhance the interactive experience.

The entire page would be a huge file to download if you created it as a single animated GIF, but as you learned in the previous chapter you can use ImageReady's slicing features to chop up the Photoshop document's contents into slices, to create a fully integrated design. Being able to slice up a document into a jigsaw-style mixture of animated GIFs and still images gives you the freedom to design all the components from the comfort of the Photoshop interface, without having to worry about editing tables to get the elements to fit together.

On TV

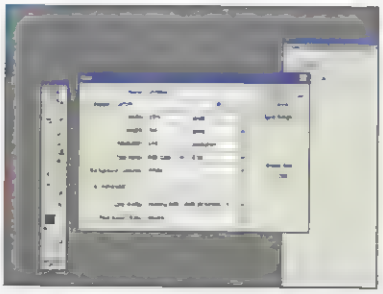
While this last project is aimed at creating a website interface, owners of Photoshop CS2 could adapt our walkthroughs to create background animations for a high-tech DVD menu. You wouldn't need to create the GIFs as rollovers, but you could get them to animate in a loop. You can then use DVD authoring software such as Encore to make your Photoshop-created animations link to chapters on the disc, instead of creating links to web pages.

Designing the background

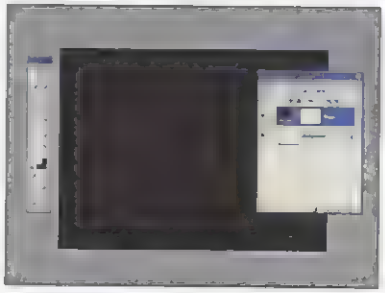
Create a brushed-metal background for your spy-themed interface using layer styles

Good guides

To be more precise when cutting the holes in your background press [Ctrl]/[Command]+[R] to activate the rulers, and drag blue horizontal or vertical guides from the rulers on to the work area. These guides will help you to place the Rounded Rectangle Tool more accurately, and get the holes in the shape to align.



1 **Open Photoshop. Go to File > New and create a file that's 1024 pixels wide by 768 pixels high. Set the Resolution to 144 pixels/inch. This is very large for a website interface, but it's easier to create an effective design if you can get a closer look at the components. You'll be able to reduce the file's dimensions at the end of the project, to make it suitable for viewing in a browser.**

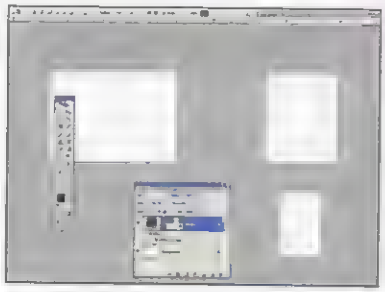


2 **Select the Rounded Rectangle Tool [U], and draw a rectangle that fills almost the entire workspace. To give it a texture we'll use a Pattern Overlay layer style. You could use a pattern from Photoshop's selection to fill your rectangle with texture, but if you're using CS or CS2 jump to ImageReady to access its huge pattern library.**

Anyone for DVD?

You can create a similar spy-themed animated background for a DVD menu by using many of the techniques demonstrated in this walkthrough. You'll need to start off with a TV resolution file size such as 720 by 576 if you want the menu to fit a standard PAL TV monitor. You can follow this walkthrough to generate the interface's components, and animate them, but you won't be able to follow the interactive rollover instructions, as this only applies to web versions of the interface.

3 **Click on the 'Add a layer style' button, and select Pattern Overlay. In the Pattern section of the dialog click the arrow next to the preview thumbnail to see a list of patterns. Select the Brushed Metal Strong pattern, and click OK to fill the rectangle. To modify the pattern-filled rectangle switch back to Photoshop. Label the modified shape layer Metal.**

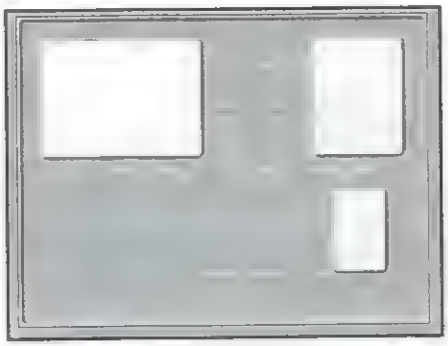


4 **With the Rounded Rectangle Tool still selected click the 'Subtract from shape area (-)' button in the options bar. This will enable you to use the tool to cut holes in the background. These holes will be used as TV monitors that display animated components of the interface, such as footage from CCTV cameras. Click and drag with the Rectangle tool to cut three holes as shown.**

3D from 2D

Use layer styles to give your two-dimensional interface a sense of depth and solidity

The filled rectangle shape looks very flat, and not much like a high-tech security console designed to control access to our website. To make the brushed metal texture look much more realistic we need to add some depth and relief. Faking the illusion of 3D is another thing the Layer Styles dialog excels at. Click the 'Add a layer style' button at the foot of the Layers palette, and select the Bevel and Emboss option from the list of available styles. By modifying attributes in the Bevel and Emboss section of the Layer Style dialog we can add three-dimensional shading effects to our metal panel to give it more depth.



Use the Bevel and Emboss layer style to create a sophisticated three-dimensional effect for your interactive spy site

Change your mind

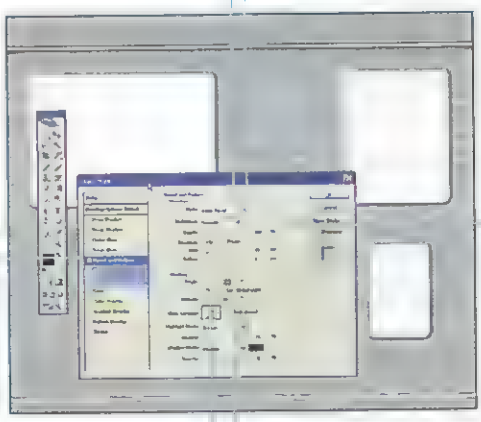
The great thing about using layer styles is that you can go back to them at any time, and alter their attributes to fine-tune the look of your graphics. You can tweak the look of your 3D metal interface at any stage by double-clicking on the Bevel and Emboss option in the Metal layer's thumbnail. We'll also use layer styles to add an animated glow to a rollover button later on in this walkthrough.

Using Bevel and Emboss

To add a smooth, polished look to your brushed metal interface set the technique option to Smooth.

To change the attributes of the layer style click on the words Bevel and Emboss: the editable attributes will appear in the main dialog.

Drag the little crosshairs icon to change the direction that the light source is coming from: this will make a huge difference to the success of your 3D illusion.



In the Structure section set the Style to Inner Bevel: this will immediately give the edges of the shape layer a sense of depth.

To increase the effect of the Bevel and Emboss layer style set the Depth to 201%. This will make the holes in the rectangle shape look more indented.

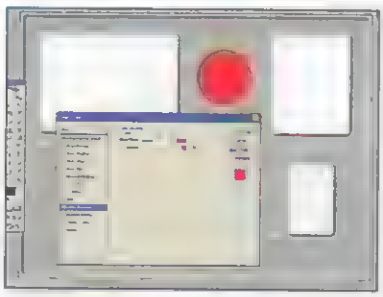
To make the holes in metal plate look more realistic set Direction to Down. You can insert animated GIFs into them later.

Import source graphics

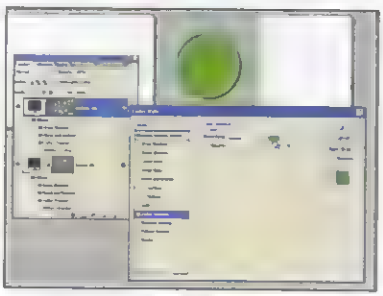
Add passport-style photos to your document to use as components for the face scanner GIF

Custom shapes

If you can't find the custom Grid shape, open the Custom Shape picker in the options bar. You'll see a list of shape thumbnails. Click on the arrow at the top-right of the picker, and choose Reset Shapes from the list of menu options. Click OK in the next dialog that appears to replace the current shapes with the default shapes. You'll now be able to see the Grid shape.



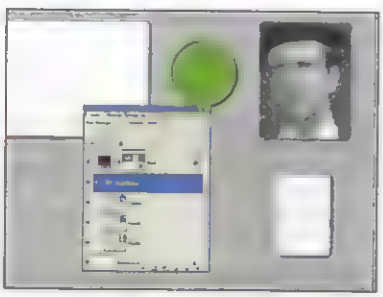
Select the Ellipse Tool, and draw a circle shape on a new layer. Label this layer Button Off. The circle will have the same layer style settings that you created for the background texture. Select Blending Options from the 'Add a layer style' menu. Untick the Pattern Overlay option, and tick the Color Overlay option. Choose a red colour to create a plastic-looking 3D button.



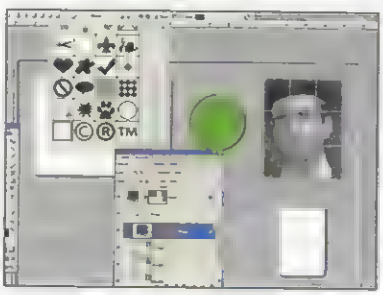
Duplicate the Button Off layer. Edit the copied button's Color Overlay layer style to create a green version of the button. To give the buttons more physical presence add a Drop Shadow layer style to them. These buttons will be used to activate the face scanner GIF that you'll place in the adjacent window.

Edit the grid

In step 4 you create a grid shape to overlay on the face components. As the shape is a vector-based object Photoshop automatically adds the layer styles you applied to the vector shape Metal layer; drag these layer styles to the trashcan to get rid of them. Colour the grid green by clicking on its layer thumbnail, and make it look more subtle by reducing its layer Opacity setting.



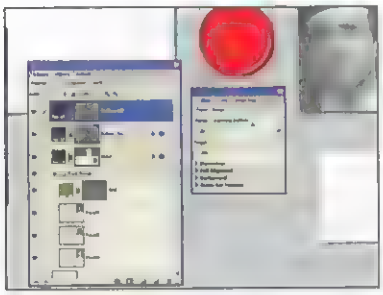
Open the file Faces.psd from the cover disc (or create a similar file using your own photos). This will form an animated face scanner GIF that activates when the button is pressed. The three face layers in the document are grouped together. Drag the Face Group thumbnail from the Layers palette to the main work area. Place it under the Metal layer, and position it as shown.



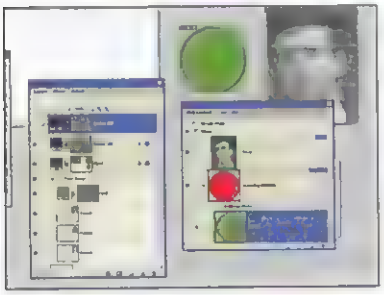
To add more detail to the components for the face scanner GIF select the Custom Shape Tool. Open the Custom Shape picker, and select the Grid shape. Draw a grid over the faces in the Face Group – the grid shape will appear on its own layer. Remove any layer style effects that have been added to the new shape layer. Place the red button layer above the green button layer.

Remote rollovers

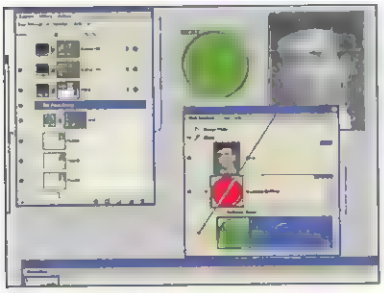
Create a button icon that triggers an animated GIF in another part of the web page interface



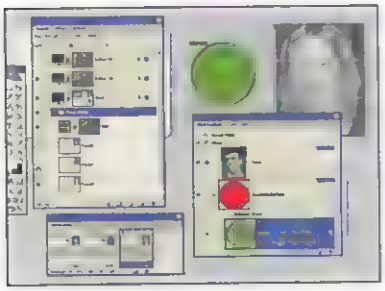
Click the Edit in ImageReady icon, and select the Slice Tool [K]. Draw a slice around the button, and draw a separate slice around the faces. Open the Slice palette. Choose the Slice Select Tool [O], and select the slice around the button. Type the name Scanning Button into the Name section of the Slice palette. Select the slice that's over the photos, and name it Faces.



Select the red Button Off layer in the Layers palette, and open the Web Content palette. Click the 'Create Rollover State' icon at the foot of the palette. A new Over thumbnail will appear. Select the Over thumbnail, and hide the red Button Off layer in the Layers palette to reveal the green button. Now, when the cursor rolls over the button it will change from red to green.



Now we'll get the rollover button to trigger an animated face scanner GIF in a different slice. Select the Face Group layer in the Layers palette, then go to the Web Content palette. Just to the left of the Over layer is a tiny Target icon. Click and drag from this icon to the slice above the faces: a diagonal line will follow the cursor, linking the button's Over state to the Face slice.



Keep the Over thumbnail selected, and Open the Animation palette. Click the 'Duplicates current frame' icon. In the Layers palette turn Face01 off to reveal Face02. Duplicate the current frame again, and turn off Face02 to reveal Face03. This will create a rapidly looping face scanning animation. When you click the button it changes from red to green, and triggers the GIF.

Modifying rollovers

Once you've created your remote rollover using the techniques described on this page you can modify it even further. To make the green button emit a green glow when it's activated, select the Over thumbnail, and select Frame 1 in the Animation palette. Then select the Button On layer in the Layers palette, and add a green Outer Glow layer style to the button.

Modifying slices

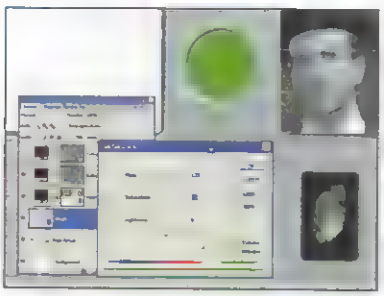
If you decide to use an Outer Glow layer style to make the green button glow, you might find that the glow is cut short where it overlaps the boundaries of the Button slice. You can increase the size of the slice to make room for the glow effect – choose the Slice Select Tool, and drag the corner handles of the Scanning Button slice to make it slightly larger.

Create a fingerprint scanner

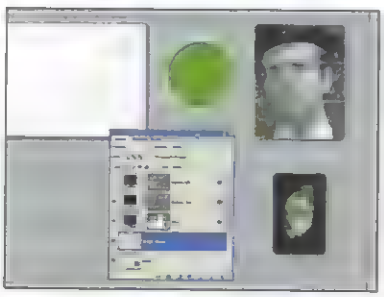
Add a fingerprint scanner to your high-tech interface using layer blends and tweening

Stay normal

Before you go back to Photoshop to add more components to your interface make sure you select the Normal thumbnail in the Web Content palette, otherwise any new graphics you add in Photoshop may not appear in ImageReady later on, as they'll be associated with a rollover state, rather than the site's Normal state.



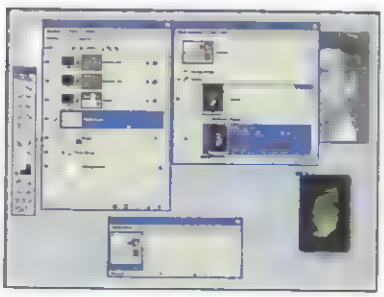
1 **Switch back to Photoshop, and open the file Fingerprint.jpg from the cover disc. Place the Fingerprint layer behind the Metal layer, so it shows through the hole in the interface. Press [Ctrl]/[Command]+[I] to invert the print's whites and blacks. Go to Image > Adjustments > Hue/Saturation, and tick Colorize. Set the Hue to 110 to tint the print green, and click OK.**



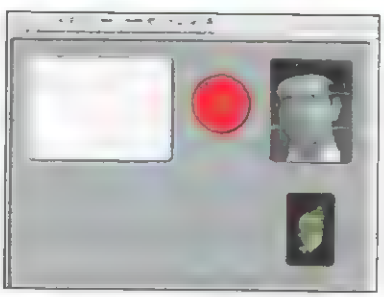
2 **Create a new layer called Print Scan, and place it above the Print layer. Use the Rectangular Marquee Tool set to a Feather of 2 to draw a narrow rectangle across the print. Fill the selection with white. Set the layer's blending mode to Overlay. We'll animate the white bar in ImageReady to make the details on the fingerprint light up as the bar sweeps up and down.**

Simple yet effective

Our scanning fingerprint GIF looks very high-tech, but the cool effect is achieved using a simple technique. By tweening the start and end point of the white bar you can make it swipe across the fingerprint, and because the bar's blending mode is set to Overlay it causes the highlights in the fingerprint to glow as it passes over them.



3 **Place the bar at the top of the fingerprint graphic, and switch back to ImageReady. Select the Print thumbnail in the Layers palette. In the Web Content palette click the 'Create layer-based rollover' icon to turn the print layer into a slice. Name the slice Print. Click on the Print slice's Over thumbnail. Open the Animation palette, and select Print Scan in the Layers palette.**



4 **Click 'Duplicates current frame' in the Animation palette to create a new frame. Use the Move Tool to slide the white bar to the bottom of the fingerprint graphic. Click the Tween icon and add 5 frames. Press [Y] to preview the rollover. As the cursor moves over the fingerprint graphic the white bar begins to move vertically, causing the print to light up as if being scanned.**

Create a CCTV animation

Use Photoshop's filters to create the effect of a live feed from several CCTV cameras

So far in this chapter you've created two types of animated GIF, and embedded them in a web page interface using slices. The scanning fingerprint effect is achieved using an animated rollover that's triggered by the presence of a cursor directly over the fingerprint icon. This makes logistical sense, as a real fingerprint scanner would require the user to place their finger on the scanner, so that their identity can be verified. The other animated GIF that you created was a remote rollover – pressing a button in one slice triggered an animation in a different slice. This is a great way of creating 'cause and effect' style animations, and you could adapt this technique to create all sorts of cool animated menu options.

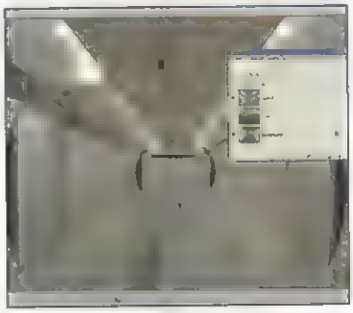
Another way of using animations to augment an interface is to avoid rollovers altogether, and have the animations permanently playing. The CCTV footage that we'll create in our next walkthrough will play without any interaction from the user, even while they're triggering the other animations.

CCTVsource.psd
You'll find some suitable surveillance-style source files for your CCTV footage on the cover disc. We chose shots without moving objects in them (like people, for example) so that the animated GIF won't look like the series of stills that it actually is!

Source files

Use Photoshop to create video-style source images

To keep our CCTV animation's size down we'll only have four different source photos that will cycle in a loop. To make the GIF more visually interesting, one of the source files will be a layer of static picture noise that you'll create in Photoshop. This picture noise will be inter-cut with the other source photos, creating an effective electronic burst of visual static as we jump from one CCTV camera's footage to another. To enhance the low-quality look of CCTV footage we'll add horizontal scan lines using Photoshop's filters, and finish each source photo off with some text, to identify which camera's footage is currently being displayed.



Choose suitably composed source files featuring empty locations to create your fake CCTV footage

Faking CCTV-style footage

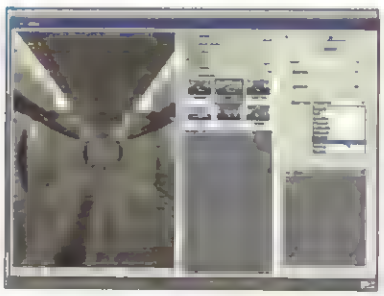
Combine Photoshop's filters to turn ordinary photos into surveillance camera images

Faster captions

Once you've created a caption for one CCTV layer, duplicate the text layer by dragging it on to the 'Create a new layer' icon. Then you can place the caption layer above the relevant source photo. Double-click on the type layer to edit the text while maintaining the same font size and style. [Shift]+click a caption and its photo layer, and press [Ctrl]/[Command]+[E] to merge them together.

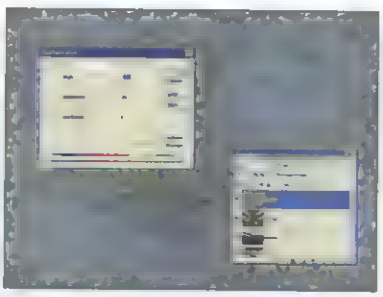
White noise

The static 'snow' on an un-tuned TV screen is called white noise, and doesn't tend to have a colour tint. We've tinted our picture noise blue purely for design reasons, as this adds a hint of colour to the interface when the noise layer flashes in the CCTV footage.



1 **Open the layered file CCTVSource.psd from the cover disc. There are three layers in the file containing suitable subjects to add to our interface's surveillance monitor. Target the Tunnel layer. Go to Filter > Texture > Grain. In the Grain Type section select Horizontal, and set the Grain Contrast to 60 to exaggerate it. Click OK.**

2 **Target the other two layers one at a time, and hit [Ctrl]/[Command]+[F] to apply the same filter settings. This will create typically low-resolution CCTV images with horizontal scan lines. Select the Horizontal Type Tool [T] and choose a stylised font such as Fixedsys to create each CCTV camera's caption. Apply a Stroke layer style to the text to make it stand out against any background.**

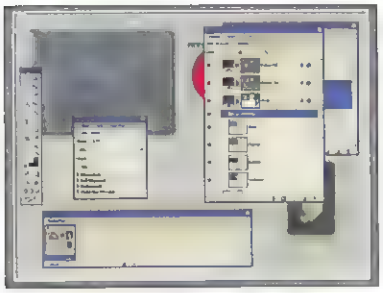


3 **Create a new layer called Static. Go to Filter > Render > Clouds to fill the screen with a fractal cloud pattern, then go to Filter > Noise > Add Noise. Set the Amount to 140%, and click OK. Apply a Gaussian Blur filter set to a Blur Amount of 2.0 pixels, to create a screen full of typical video noise. Go to Image > Adjustments > Hue/Saturation to add a blue tint to the noise.**

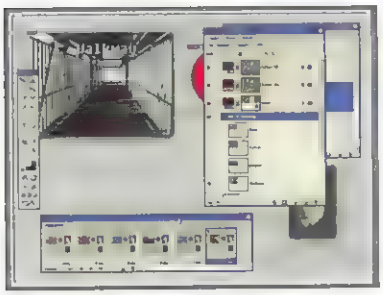
4 **[Shift]+click on the four layers, and press [Ctrl]/[Command]+[G] to group them (or turn them into a layer set if you're using CS). Call the Group CCTVGroup. Drag the CCTVGroup's folder icon from the Layers palette on to your main work area. Place the CCTVGroup beneath the Metal layer, and position it as shown. Scale the CCTVGroup's content down a little to fit it into the screen.**

Animate the CCTV footage

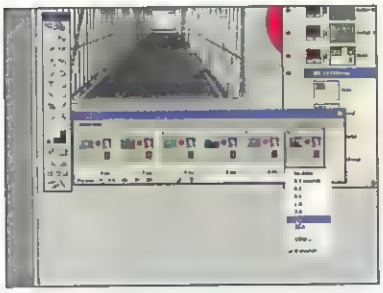
Re-time the frames to make the CCTV footage cycle slowly between different camera feeds



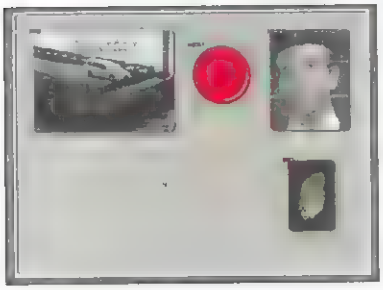
Click the Edit in ImageReady button. In ImageReady select the Slice Tool, and draw a slice around the CCTV screen footage. Use the Slice palette to label the new slice CCTV. You don't need to select the CCTVGroup to slice it up, as the slice tool cuts through all the layers in the interface. Now we need to make the footage cycle without any interaction from site visitors.



Open the Animation palette, and click the 'Duplicates current frame' icon to create Frame 2. Turn off the Static noise layer to reveal the Tunnel layer. Duplicate Frame 2, and turn the Static layer back on again. This noise layer will provide a transition between each CCTV footage layer. Duplicate more frames, to reveal the other camera layers.



At this stage the footage will cycle too quickly. Keep the Static frames set to the default delay time of 0 seconds, so that the tinted noise flashes up for a fraction of a second each time there's a cut to a different camera. Set the frames showing camera footage to a longer delay time of 5 seconds. Before previewing your animation, press the [Tab] key to clear the interface of palettes.



Press [Ctrl]/[Command]+[Y] to go to Preview mode. Sit back and watch the CCTV footage cycle in a loop, with the static noise flashing up between each cut. Move your cursor over the fingerprint and watch it scan, and click on the red button to activate the face scanner. Your site is full of different animated GIFs, including simple animations, ordinary rollovers and remote rollovers.

Labelling slices

If you neglect to label slices as you create them then each slice will take the name of the document, with a corresponding number appended. Once you've got a complex project like this on the go you'll soon be unable to tell which slice name applies to a particular slice on-screen. Giving slices suitable names will speed up your workflow no end.

Adapting techniques

Creating the looping surveillance GIF will equip you with skills that you can adapt for your own projects. If, for example, you have a portfolio of photos that you want to promote you can place a few of the best shots as thumbnails in an animated GIF, like the one we've created in this walkthrough: this will help to get people clicking through to see your work.

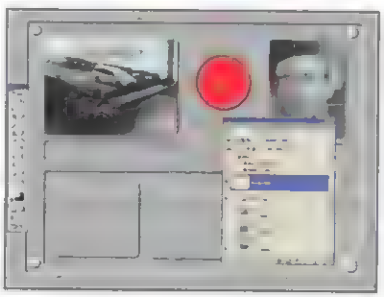
Finishing touches

Switch back to Photoshop to add a few visual embellishments to your interactive web page

Reduce the size

*To cut the file down to size in ImageReady, go to Image > Image Size. Set the Width to 600 pixels, which will make your page display happily in most browsers. Go to File > Save Optimized As. Choose HTML and Images (*html). ImageReady will optimise your file, turn the slices into images and place them in a folder. It'll also generate an HTML file that will link the images together, and run the animations.*

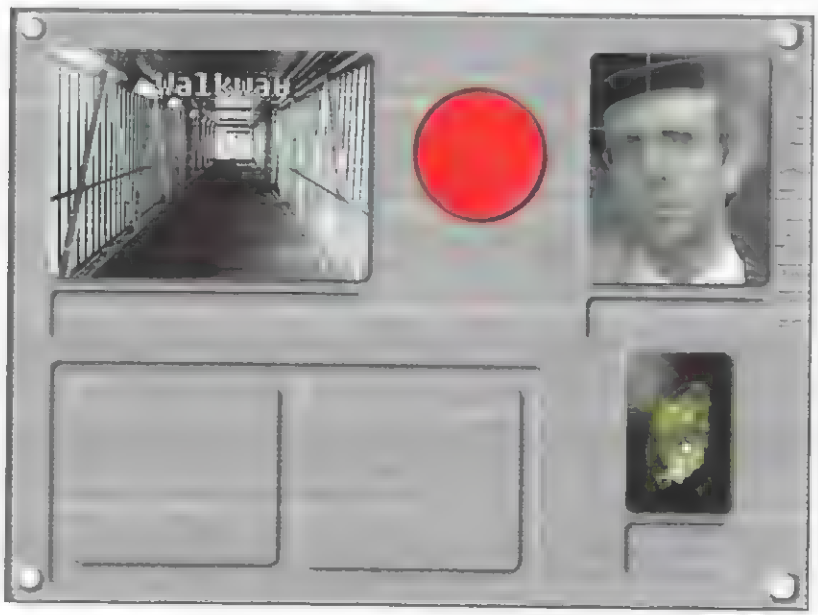
Use the Rounded Rectangle Tool to draw some more panels on the metal interface to add more detail. To fill these additional panels with the same brushed metal effect press [Alt]/[Option] and drag the Metal layer's layer effects on to the thumbnail of the new panel: this is a handy way of applying existing layer effects to a new layer in one easy action.



Use the 'Subtract from shape area (-)' option to cut holes in the panels: you'll need to select the relevant thumbnail first. Create a new layer, and place it beneath the Metal layer but above the animation content layers. Add screen reflections to each video display using a soft white brush in a new layer, and reduce the opacity of the layer to 65% to make the effect more subtle.

Spy-Interface.html

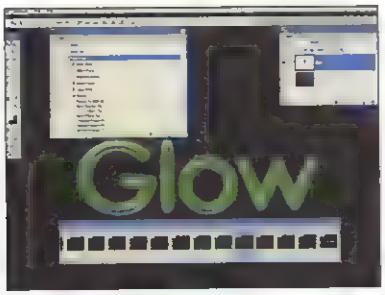
Double-click on the HTML file on the cover disc to see our finished high-tech spy interface in action – it will open the associated images into your browser. If you use Internet Explorer you might find that you can't immediately interact with the animated GIFs – this is because Explorer has an annoying default setting that restricts active content. Click on the warning bar, and select Allow Blocked Content. Now you can play with the interactive animations in your browser.



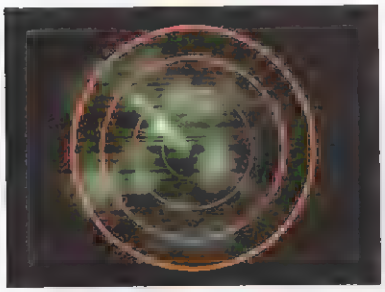
ImageReady recap

Here's a quick recap of how to make the most of ImageReady's animation tools and features

1 **Working through this guide you'll have discovered how ImageReady provides a variety of ways to create animated content. Tweening is one of the most useful ImageReady tools, as it saves you creating individual frames to change the position, opacity or layer style of an object. By using tweening you can create animations such as the bouncing ball in Chapter 2.**



2 **Another effective way to add variety to your animations is to use ImageReady's ability to animate any layer style attribute; this can add a new level of sophistication to your animated GIFs. By tweening between different glow attributes you can create a pulsing neon logo like the one in Chapter 3.**



3 **One of ImageReady's main constraints is that you can't tween a layer's content to transform it, but you can overcome this by duplicating the layer, editing it and then using the Animation palette to change the visibility of the layers, to create the illusion that an object is rotating or otherwise changing. An effective example of this is the sweeping radar animation in Chapter 4.**

4 **You don't have to cut abruptly between the content of each frame in an animation. Try mixing dissolves created by tweening two different shots with cuts, and build up the animation's content in layers. The storm project in Chapter 6 demonstrates this technique: the lightning in the clouds mixes in gradually, while two layers of rain cut on and off over the lightning mix.**

Lovely loops

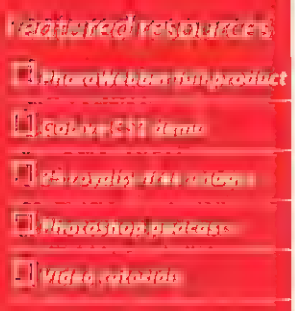
Make good use of the fact that you can loop your animations: never add extra frames to an animation if you can achieve the same effect by looping between a small amount of frames. Looping helps you to keep the file size of the finished GIF to a minimum.

Amazing actions

Life's too short to go through repetitive editing and animation procedures if you don't need to. Use ImageReady's actions to make your text zoom in and out (see page 43), and record your own actions that will enable you to create animated GIFs with a click of your mouse.

On your CD-ROM

Here's how to get the most from the disc that accompanies your Photoshop Focus Guide



To access the resources and files on this disc, including the huge collection of fonts and exclusive video tutorials, first insert the CD into your drive. Whether you're using a Mac or a Windows PC, the disc will work equally well. If the disc interface doesn't run automatically, look at the opposite page to find out how to start your installation manually.

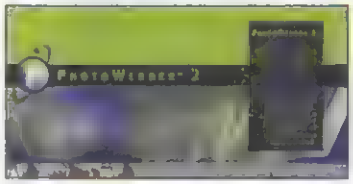
Before you go on

The first item that should appear on your screen is the disclaimer window; here you'll need to click on 'I Accept'. Please remember that this disc has been scanned and tested at all stages of production, but – as with all new software – we still recommend that you run a virus checker before use. We also recommend that you have an up-to date backup of your hard disk before using this disc. Future Publishing does not accept responsibility for any disruption, damage and/or loss to your data or computer system that may occur while using this disc, or the data and programs on it. Please

PhotoWebber full product

Save time when converting Photoshop designs to web pages

This full version of PhotoWebber, which is currently retailing for $129, is a design-forward web page creation program. Instead of starting with HTML constraints, and forcing designers to begin by making technical decisions up front, it starts with a completed Photoshop design, and adds the appropriate HTML commands and features to that design. When you use PhotoWebber it's no longer necessary to chop Photoshop files into little pieces and reassemble them manually in an HTML editor. PhotoWebber translates layered Photoshop files directly into matching HTML layouts effortlessly, enabling you to create great pages fast.



PhotoWebber adds HTML to designs created in Photoshop, making it easy to build fully-functioning web pages

www.medialab.com/computerarts

consult your network administrator before attempting to install any software on a networked computer.

Installation

Once inside you'll see a range of options in the menu bar. Click on a link to access the section that you require. Some files may need to be extracted from a zip file, try using WinZip to do this on PC if your version of Windows does not have a dearchiving utility (**www.winzip.com**). Our video tutorials require the latest QuickTime Player, from **www.apple.com/quicktime/download**. If you have a query about your disc, email **support@futurenet.co.uk** for help. To talk to a member of the team, call **01225 822743**. Note that we can only provide basic advice on using the disc interface and installing the supplied software. We cannot give in-depth help on specific programs, or on your particular system configuration.

Starting your installation manually

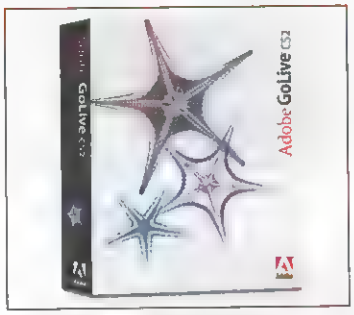
PC users: click on the Windows Start button and click Run. Then click Browse and go to the CD directory in My Computer. Look for a file called PSFGi.exe and double-click it. Then click OK in the Run dialogue, and the CD should then load up. Mac users: Double-click the disc icon, then double-click PSFGiClassic or PSFGiOSX, depending on which OS you're using.

GoLive CS2

Create professional websites

On the disc you'll find the PC demo version of Adobe GoLive CS2. This software will integrate with most other Adobe packages, including Photoshop and Illustrator, as well as the Adobe Portable Document format (PDF).

With GoLive you can manipulate new CSS layouts, using rich-environment mobile content development based on open standards. Site management capabilities have been improved, with support for transferring files through new FTP and Secure Socket standards. So what are you waiting for? Give this incredible application a try, and make the most of the skills you've learnt in this Focus Guide.



Create stunning web pages by combining the power of Photoshop with GoLive CS2

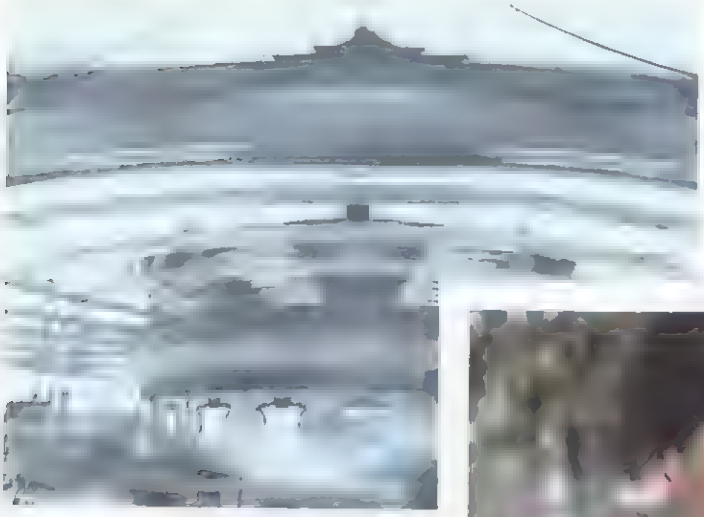
www.adobe.com

25 royalty-free images

These high-quality images from iStockPhoto will add a professional touch to your work

CD images
On the CD this issue you'll find these five images, and a lot more from iStockPhoto, in high-resolution JPEG format. To see the entire collection pay a visit to ***www.istockphoto.com.***

This selection of 25 images, worth over $100, are an incredible sampler of what iStockPhoto offers. The iStockphoto library contains over 100,000 files, and 7,000 new images are added each week. Each image is reviewed for quality and legal integrity by a worldwide network of highly-qualified inspectors. These images are strictly not for resale.



Just a sample of the many images that are included on your CD

Next Month

Adobe Photoshop
The Digital Darkroom

- A professional digital artist reveals his tricks of the trade to enhance your images
- All 100% exclusive tutorials - no adverts and no filler
- 230 pages of expert Photoshop information in the guide and on the accompanying bonus disc
- The ORIGINAL monthly Photoshop title packed with all the know-how you need to become an expert with the world's favourite image editor

Includes bonus disc with full programs, image manipulation tools and Photoshop plug-ins, exclusive video lessons, a second FREE Focus Guide as PDFs, all the files you need to complete the tutorials & much more!

All contents subject to change

ISSUE 35 ON SALE 09 APRIL 2006

Glossary

We always try to minimise the jargon, but it helps to add a few words of Photoshop-speak to your vocabulary...

Anti-aliasing
Moving pixels around can cause undesirable jagged edges to appear, where edited pixels have not blended smoothly together. Anti-aliasing refers to the process of smoothing out these jagged edges for a more natural look.

Blending modes
Blending modes are used to determine how the pixels in a layer are blended with underlying pixels on other layers. By applying specific blending modes to individual layers, you can create a wide variety of effects.

Brushes
Brushes enable you to paint on Photoshop images with colour, other bits of images and predefined patterns. They mimic real brushes in that you can alter their size, hardness and texture in order to achieve the effect that you want.

Calibration
The process of adjusting a device to bring its behaviour into line with a known specification, helping to reproduce colours accurately. For example, colour monitors are calibrated to a specific colour temperature, gamma, and black-and-white luminance.

Colour channels
There are three or more colour channels in all full-colour images, depending on which colour mode you're using. For example, RGB mode contains red, green and blue channels, while CMYK mode contains cyan, magenta, yellow and black channels. Photoshop enables you to alter each channel independently

Filters
A filter is a preset tool within Photoshop, which applies an effect to an image (or a selection within the-image). Some filters apply their effect in one click, while others offer more complex settings. Filter categories include Sharpen, Blur, Artistic and Stylize. Each of these offer further options via fly-out menus. For a complete list, check out the Filter menu.

Gamut
The range of colour that a device (such as a printer) can produce, or the range of colour that a colour model can represent. If a colour is said to be 'out of gamut', it will not be reproduced accurately by the printing process or other intended destination.

GIF (or .gif)
A type of image file format best suited to producing simple images for the web. Examples include logos, banners, buttons and anything made up of only a few flat colours.

Greyscale
An image is greyscale if it contains no colour information. Using Photoshop, you can transform a colour image into black-and-white, with many gradations of grey, in a single channel. This as known as a greyscale image.

JPEG (or .jpeg)
A type of image file format that gives a desirable combination of small file size and good-quality photo reproduction. It's commonly used in digital cameras to store the images that you take. The small files sizes also make it ideal for the web.

Layers
Layers containing effects or elements of images can be stacked on top of the original image layer (the background) in order to change the appearance of the image. Layers do not directly affect the layers beneath them, just as a blurry piece of glass placed over a photograph does not actually affect the photograph; in both cases, it's the appearance that has been changed, with the original image left unaltered.

Marquee
The flashing dotted outline that surrounds a selection. You'll also see it referred to in some places as 'marching ants'.

Rasterising
When you 'rasterize' a graphical element, you convert it from a vector to a pixel-based image. It will no longer be scalable like a vector, but can still be edited, like other images in Photoshop.

Resolution
A measure of how many pixels make up an image. A resolution of 300dpi (dots per inch) is recognised as the minimum if you're intending to print your images. 72dpi is sufficient for images intended for the web.

Selection
Any part of an image which you select with Photoshop's tools, usually indicated by a marquee around it. Making selections enables you to work on parts of an image, or remove them, without affecting the rest of the image.

Thumbnail
A small, 'thumbnail-sized' version of an image. You'll find them in folders of images and in Photoshop's File Browser. Because they're smaller than a full-size image they're fast to load, and you can browse through them more quickly, which makes finding the file you're after much easier.

Pixel
An abbreviation for 'picture element', it's essentially a tiny dot of colour on screen. Most images are made of up of millions of pixels, which combine to make an image look seamless. Zoom in very close to an image, however, or enlarge it to a high degree, and you can clearly see these individual pixels.

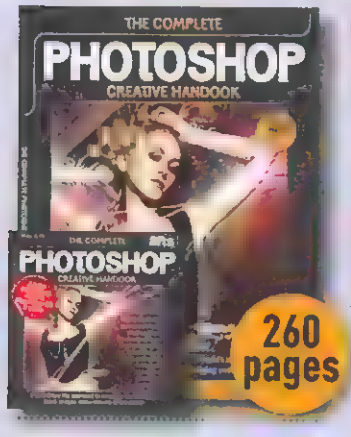
PSD (or .psd)
Adobe Photoshop's own file format, which preserves elements such as layers and channels. If you're editing an image file, it's sensible to save it as a .psd, in order for the changes you've made to remain editable when you next open it.

Spot colour
A method of specifying and printing colours in which each colour is printed with its own separate ink. In contrast, process colour printing uses four inks (cyan, magenta, yellow and black) to produce all other colours.

Tool options bar
When a tool is selected, the corresponding tool options bar automatically appears along the top of the Photoshop window, giving you access to various options relating specifically to that tool. These often include effects such as Anti-aliasing and Feathering.

The Complete Handbooks

Improve your knowledge of the subjects that matter with our comprehensive collections of tutorials, projects and features

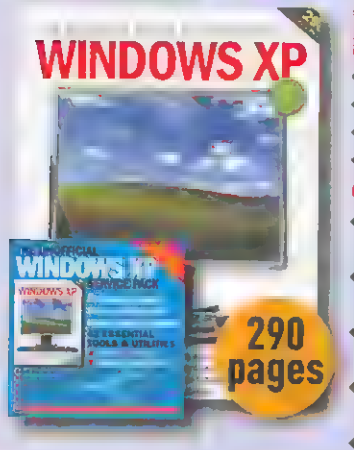


PHOTOSHOP CREATIVE HANDBOOK

- Over 40 creative tutorials and features
- Use Photoshop for 3D and vector art
- Secrets from professional digital artists
- Make Photoshop work collaboratively
- Create stunning works of art using advanced tools

ON THE DVD-ROM

- Adobe Photoshop CS 2 trial for Mac & PC
- Adobe Illustrator CS 2 trial for Mac & PC
- Full programs, tutorial files, video lessons & more!

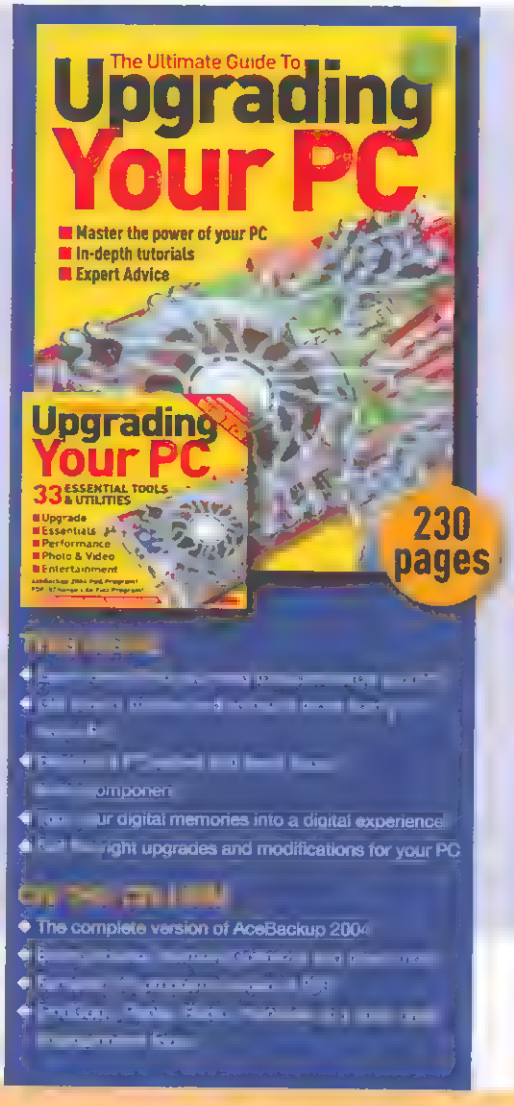


ULTIMATE GUIDE TO MICROSOFT WINDOWS XP

- Make movies, websites and music
- Protect your PC against online threats
- Breathe new life into your old machine
- Easy fixes for all your PC problems

ON THE CD-ROM

- Stay safe online: ditch Internet Explorer for Mozilla Firefox
- DiscSpace Explorer manages your hard drive – worth £11.50*
- Banish malware & intruders with Ad Aware and Zone Alarm
- Spring-clean your system using Fast Cleaner – worth £11.50*
- 38 other full tweaking tools & utilities plus lots more!



Each issue gives you unbeatable coverage of its subject plus some feature a FREE CD-ROM or DVD-ROM

SIMPLE STEPS SERIES 123

ON SALE **NOW** EXCLUSIVELY FROM WHSmith

SUBJECT TO AVAILABILITY FROM SELECTED WH SMITH HIGH STREET STORES

Index

Turn straight to the information you need with the help of our comprehensive index

M

N

O

P

Q

R

S

T

U

V

W

FocusGuide

Photoshop

A look inside

ANIMATION TOOLS AND INTERFACES

The powerful combination of Adobe Photoshop and ImageReady enables you to create eye-catching animations that will enhance your websites and add polish to your video

The basics

GETTING THE BALL BOUNCING PROPERLY

Following this traditional "bouncing ball" animation exercise will help you to understand the process of creating assets in Photoshop and then making them move in ImageRready.

Honing your skills

CREATING LOGOS FOR TV AND THE WEB

Develop your animation skills by creating logos that you can use to augment your websites - you'll discover some powerful new tools and techniques in the process

Everday tools

ANIMATING EVERYDAY TECHNOLOGY

Develop your Photoshop and ImageReady skills further to create a variety of technologically inspired animations for your home movies, your website and even for mobile phones

The fun stuff

FROM DOGS TO DALEKS: MAKING FIGURES MOVE

Animators have been making characters move since the earliest days of the art. We'll show you how to use the ultra-modern tools of Photoshop and ImageReady to bring figures to life

Natural energy

WHIPPING UP A STORM IN IMAGEREADY

We can use Photoshop and ImageReady to create eye-catching animations that mimic dramatic natural phenomena such as rain, lightning and even a shimmering heat haze

Basic interaction

ANIMATION AND INTERACTIVITY

Learn how to use animated .GIFs to make a website more interactive by incorporating them into the overall design of a page. You can then trigger animations to encourage surfers to explore your website

And finally

THE FINAL PROJECT

Combine the various tips, tricks and techniques you have practised to create and animate a sophisticated homepage interface. You'll pull together your understanding of tweening and animated rollovers to achieve a hi-tech result

Future
MEDIA WITH PASSION

FOCUSGUIDE 34 £7.99

9 771741 396004 04>